

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CISCO SYSTEMS, INC.,
Petitioner,

v.

VIDEO SOLUTIONS PTE. LTD.,
Patent Owner.

IPR2024-00922
Patent 8,446,823 B2

Before MICHAEL R. ZECHER, BARBARA A. PARVIS, and
NORMAN H. BEAMER, *Administrative Patent Judges*.

PARVIS, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Cisco Systems, Inc. (“Petitioner”) filed a Petition (Paper 2 (“Pet.”)) requesting *inter partes* review of claims 1–8 (“challenged claims”) of U.S. Patent No. 8,446,823 (Ex. 1001, “the ’823 patent”). Video Solutions Pte. Ltd. (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”).

Under 35 U.S.C. § 314, an *inter partes* review may not be instituted unless the information presented in the petition and any response “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” For the reasons provided below, we determine that Petitioner has not demonstrated a reasonable likelihood that it will prevail in showing the unpatentability of at least one challenged claim. Accordingly, we do not institute *inter partes* review of the ’823 patent.

II. BACKGROUND

A. *Real Parties-in-Interest*

Petitioner identifies itself as a real party-in-interest. Pet. 69. Patent Owner names itself as the real party-in-interest. Paper 4, 2.

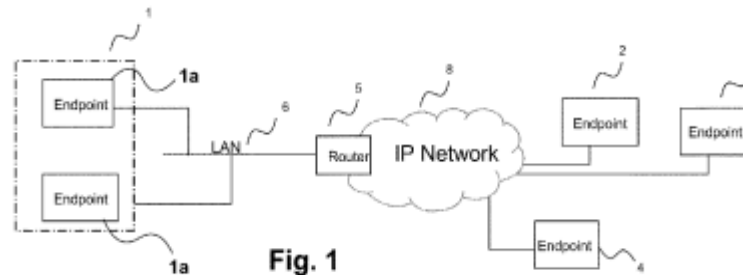
B. *Related Matter*

Both parties identify, as a matter currently involving the ’823 patent, *Video Solutions Pte. Ltd. v. Cisco Systems, Inc.*, No. 2:23-cv-00222 (E.D. Tex.) (“the parallel district court proceeding”). Pet. 69; Paper 4, 2.

C. *The ’823 Patent*

The ’823 patent is titled “Method of Managing The Flow of Time-Sensitive Data Over Packet Networks.” Ex. 1001, code (54). The ’823 patent “relates to . . . a method of managing the flow of time-sensitive data, such as voice or audio.” *Id.* at 1:7–9.

Figure 1 of the '823 patent, reproduced below, is a schematic diagram of a video conferencing system. *Id.* at 2:46–47.



As shown in Figure 1, video conference system 1 includes endpoint 1a at a first location connected via local area network (LAN) 6 to router 5, which is connected to Internet Protocol (IP) network 8, which, in turn, is connected to endpoints 2, 3, and 4 at different locations. *Id.* at 2:61–66, Fig. 1. The '823 patent describes that video connections in Figure 1 carry video signals having larger peaks representing periods of high data traffic associated with intra-frames (I-frames) and smaller traffic peaks representing predicted-frames (P-frames). *Id.* at 3:7–16. I-frames transmit the entire picture, whereas P-frames transmit small fragments of the picture that have changed with respect to the previous I and P-frames. *Id.*

Figure 2, reproduced below, is a functional block diagram of video conferencing system 1. *Id.* at 2:48–49.

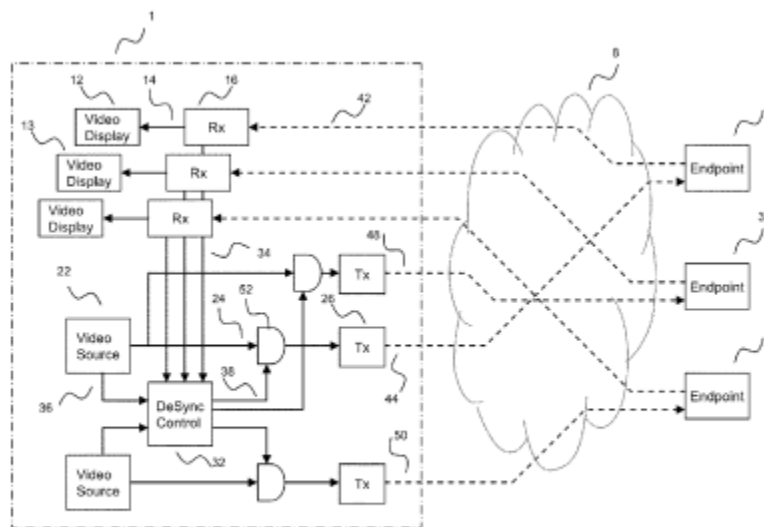


Fig 2 Video Conference Function Block Diagram

Fig. 2

As shown in Figure 2, video conferencing system 1 includes, among other things, Network Receiver 16, Network Transmitter 26, deSync control 32, and delay blocks 52. *Id.* at 4:3–20.

Network Receiver 16 terminates IP connection 42 from endpoint 2 and delivers digital video signal 14 to display 12. *Id.* at 4:12–14. Signals 34 indicative of Round Trip Delay (RTD) from Network Receiver 16 are received by deSync control 32. *Id.* at 4:59–61.

Network Transmitter 26 converts digital video signal 24 from Video Source 22 and sends it as IP signal 44 to remote endpoint 2. *Id.* at 4:18–20. DeSync control 32 receives signals 36 from video source 22 indicative of the time the last I-frame was transmitted in video signal 24. *Id.* at 4:63–65.

According to the '823 patent, deSync control 32 delays the transmission of the signal on certain connections to minimize aggregate traffic peaks while not increasing Round Trip Delay (RTD) of any connection beyond the greatest undelayed RTD for all connections. *Id.* at 4:66–5:3. DeSync control 32 achieves the delay by transmitting signal 38, which specifies a time that is used by delay

block 52 to delay signal 24. *Id.* at 5:3–7. DeSync control 32 also determines the delay of each stream so as to separate peaks that would otherwise coincide, by delaying streams with the least RTD more than those with higher RTD such that the stream with the highest RTD is not delayed. *Id.* at 5:12–17.

D. Illustrative Claims

Petitioner challenges claims 1–8 of the '823 patent. Pet. 33. Claim 1 is the only independent claim. Claims 2–8 depend, directly or indirectly, from claim 1. Independent claim 1, reproduced below, is illustrative of the claimed subject matter.

1. [1.0.1¹] A method of managing multiple data streams transported through a common communications resource in a packet network, [1.0.2] wherein data flowing through said resource travels in both directions, and [1.0.3] wherein each stream is subject to data peaks, comprising:

- [1.1] establishing logical two-way connections through the common communications resource between one or more near endpoints and one or more far endpoints,
- [1.2] determining an undelayed round trip delay for each said logical two-way connection,
- [1.3] determining the maximum round trip delay among all said logical two-way connections,
- [1.4] preparing each of said data streams for transmission over respective said logical connections from a said near endpoint to a said far endpoint,
- [1.5] determining the location of said data peaks in said data streams,
- [1.6] transmitting said data streams over said respective logical two-way connections to said one or more far endpoints, and
- [1.7] delaying the transmission of one or more of said data streams that are transmitted over a said logical two-way connection having an

¹ Herein we use Petitioner's designations for the elements of claim 1. Pet. 45–59.

undelayed round trip delay less than the maximum round trip delay by an amount dependent on the location of said peaks to reduce the degree of coincidence in the data peaks of different streams without increasing the maximum round trip delay for the logical two-way connections.

Ex. 1001, 6:66–7:26.

E. Evidence

Petitioner relies on the references summarized in the table below.

Name	Reference	Exhibit
Larson	US 2009/0141800 A1, filed Sept. 3, 2008, published June 4, 2009.	1005
Cai	<i>IQ-Services: Network-Aware Middleware for Interactive Large-Data Applications</i> , Proceedings of the 2nd Workshop on Middleware for Grid Computing (Oct. 18, 2004). ²	1009

Petitioner also relies on the Declaration of Immanuel Freedman, Ph.D. (Ex. 1003) to support its contentions that the challenged claims are unpatentable.

F. Asserted Grounds

Petitioner asserts that the challenged claims of the '823 patent are unpatentable based on the following grounds summarized in the table below (Pet. 33):

² Patent Owner argues that Petitioner failed to present sufficient evidence demonstrating that Cai was publicly accessible prior to the earliest effective filing date of the '823 patent. Prelim. Resp. 39–46. We need not address Patent Owner's arguments in that regard in light of our other determinations herein.

Claim(s) Challenged	35 U.S.C. § ³	References/Basis
1–8	103(a)	Larson, Cai

III. ANALYSIS

A. *Legal Standards*

A patent claim is unpatentable under 35 U.S.C. § 103(a) when the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when in evidence, objective evidence of nonobviousness, i.e., secondary considerations.⁴ *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

B. *Level of Ordinary Skill in the Art*

Petitioner asserts that a person of ordinary skill in the art (POSITA) “would have had a bachelor’s degree in electrical engineering, computer science, physics, computer engineering, or an equivalent degree or equivalent training, and approximately two to three years of experience working with real-time multimedia transport, including videoconferencing systems, video codecs and/or similar technology.” Pet. 18 (citing Ex. 1003 ¶¶ 60–61). Petitioner also asserts that “[l]ack

³ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284 (2011), amended 35 U.S.C. § 103. Because the challenged claims of the ’823 patent have an apparent effective filing date before the effective date of the applicable AIA amendment, the pre-AIA version of § 103 applies. Ex. 1001, code (22). Our analysis would not change under the AIA version of § 103.

⁴ The present record does not include any objective evidence of nonobviousness.

of professional experience can be remedied by additional education, and vice versa.” *Id.*

For purposes of this proceeding, Patent Owner “agrees to use Petitioner’s definition” for a person of ordinary skill in the art. Prelim. Resp. 12.

For purposes of this Decision, we adopt Petitioner’s proposal as reasonable and consistent with the ’823 patent specification and the prior art.

C. Claim Construction

We interpret the challenged claims

using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.

37 C.F.R. § 42.100(b). Under that standard, we generally give claim terms their ordinary and customary meaning, as would have been understood by a person of ordinary skill in the art at the time of the invention, in light of the language of the claims, the specification, and the prosecution history. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–14 (Fed. Cir. 2005) (en banc).

Petitioner states “each claim term in the Challenged Claims” should “be given its plain and ordinary meaning,” and “that no specific construction of any claim term is required.” Pet. 17–18. Patent Owner “agrees with Petitioner that, for this proceeding and the grounds presented by Petitioner, no claim term requires construction.” Prelim. Resp. 12. For purposes of this Decision, no claim terms require express construction.

D. Asserted Obviousness of Claims 1–8

Petitioner asserts that claims 1–8 are unpatentable under 35 U.S.C. § 103(a) as obvious over Larson and Cai. Pet. 33–65. Patent Owner disputes Petitioner’s

arguments that independent claim 1 would have been obvious. Prelim. Resp. 1–3, 12–24.

We begin with an overview of the asserted prior art. We then turn to the parties’ arguments.⁵

1. Larson (Exhibit 1005)

Larson is titled “Transmitting Video Streams,” and discloses systems, methods, and devices for transmitting video streams that include coordinating transmission of I-frames in a first video stream with transmission of I-frames in a second video stream such that the I-frames do not overlap in the first and second video streams. Ex. 1005, codes (54), (57). Figure 1 of Larson, reproduced below, illustrates a representation of a compressed video transmission system. *Id.* ¶ 6.

⁵ Patent Owner also argues we should deny institution because “the Petition’s challenges effectively present ‘voluminous and excessive grounds’ that ‘suffer from a lack of particularity and indefinite scope.’” Prelim. Resp. 26 (citing *Adaptics Ltd. v. Perfect Co.*, IPR2018-01596, Paper 20 (PTAB Mar. 6, 2019) (informative)). We do not reach Patent Owner’s arguments in that regard because, as discussed below, we deny the Petition on the merits.

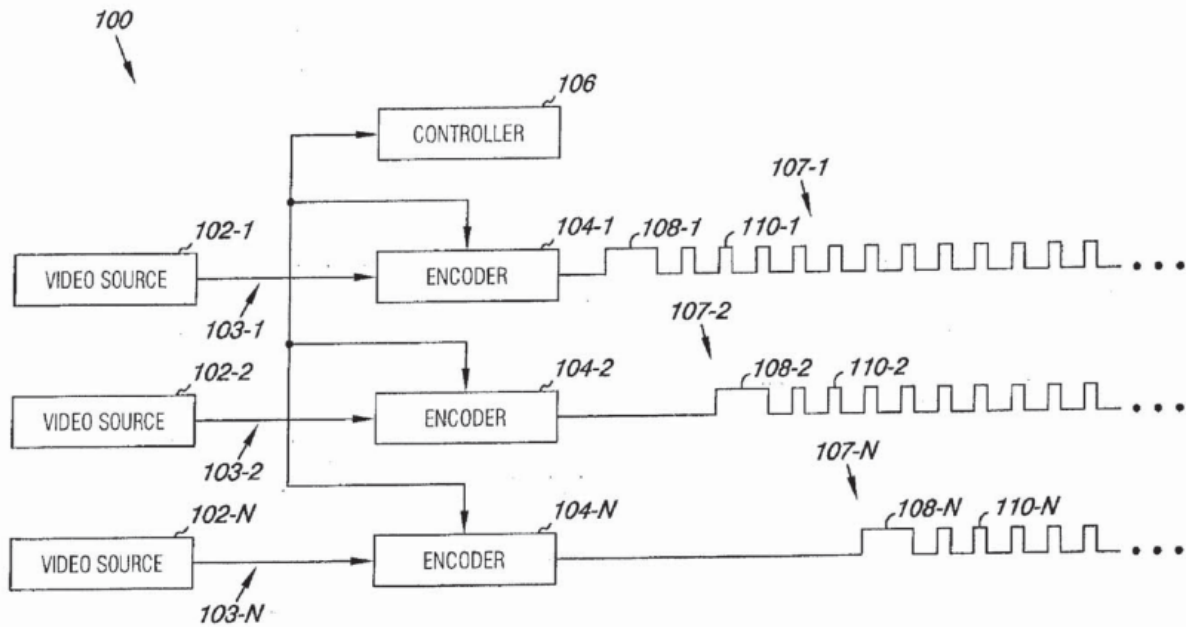


Fig. 1

Figure 1 illustrates system 100 including video sources 102-1, 102-2, 102-N that output uncompressed video streams 103-1, 103-2, 103-N to encoders 104-1, 104-2, 104-N. *Id.* ¶¶ 22–23. Encoders 104-1, 104-2, 104-N compress the signals received from the video sources 102-1, 102-2, 102-N and output compressed video streams 107-1, 107-2, 107-N. *Id.* ¶¶ 24, 27.

By compressing signals received from video sources prior to transmission over a network, bandwidth consumption by the transmitted signal is reduced. *Id.* ¶ 24. Encoders 104-1, 104-2, 104-N encode video streams that include I-frames and P-frames. *Id.* ¶ 25.

Larson describes staggering video streams from encoders such that I-frames do not overlap. *Id.* ¶ 31. For example, as shown in Figure 1 of Larson, video stream 107-1 from encoder 104-1 starts first, followed by video stream 107-2 from encoder 104-2, and then followed by video stream 107-N from encoder 104-N. *Id.*

2. *Cai (Exhibit 1009)*

Cai is titled “IQ-Services: Network-Aware Middleware for Interactive Large-Data Applications.” Ex. 1009, 11. Cai discloses an experiment emulating two remote clients, engaged in a real-time collaboration, that receive the same visualization data stream. *Id.* at 14. Cai explains that the experiment uses two connections sharing a bottleneck link but with different round trip times (RTTs) and throughput. *Id.* To synchronize the two connections, the Dynamic Adaptation Layer (DAL) performs rate adjustment based on the RTT information of each connection. *Id.* More specifically, if the RTTs of the two flows are RTT_1 and RTT_2 and $RTT_1 < RTT_2$, the DAL adjusts the rate of connection by adding a delay of $RTT_2 - RTT_1$ to its packets. *Id.*

3. *Independent Claim 1*

The disputes between the parties regarding limitation [1.7] are dispositive of the Petition, so our discussion centers on that limitation.

Limitation [1.7] is reproduced below:

delaying the transmission of one or more of said data streams that are transmitted over a said logical two-way connection having an undelayed round trip delay less than the maximum round trip delay by an amount dependent on the location of said peaks to reduce the degree of coincidence in the data peaks of different streams without increasing the maximum round trip delay for the logical two-way connections.

Ex. 1001, 7:19–26.

Petitioner relies on Larson’s disclosure that “video streams from encoders can be staggered such that I-frames do not overlap” and Larson’s Figure 1 illustrating staggering of video streams. Pet. 59 (citing Ex. 1005 ¶ 31; Fig. 1). Petitioner also relies on additional disclosures in Larson relating to staggering I-

frames because I-frames use a larger amount of bandwidth as compared to P-frames. *Id.* at 60 (citing Ex. 1005 ¶¶ 33, 34, 37–39).

Petitioner makes two arguments regarding modifying the aforementioned teachings in Larson. *Id.* at 60–62. First, Petitioner argues a person of ordinary skill in the art would have modified Larson in view of “background knowledge.” *Id.* at 60–61. Petitioner, more specifically, argues as follows:

POSITAs would recognize that Larson does not go into detail on which stream(s) to delay because (i) POSITAs would have the requisite background knowledge on making [the] selection [of which stream(s) to delay], and (ii) it was known in the art that introducing additional delay to the video stream of the connection with the maximum (longest) current RTD, would make the performance and user experience of the multiparty, delay-sensitive videoconference worse, especially in scenarios where the various connections have widely disparate determined RTTs and with an RTT approaching the well-known usability limit for interactive applications (300ms). §VII.A.3, §V.G.2–§V.G.3 (EX-1006, 32–36, 38–39, 101–106, 170, 184, 209, 285; EX-1021, 26, 34, 36–37, 135; EX-1007, 15, 37, 128, 164–165; EX-1019, 1–3; EX-1020, 1–2; EX-1008, 1122, 1125–1129; EX-1009, 11, 14(§4.1)).

Pet. 60–61.

Second, Petitioner argues a person of ordinary skill in the art would have modified Larson in view of Cai. Pet. 61–62. Petitioner, more specifically, argues as follows:

[A]s explained in [1.3] and for the reasons discussed in the Motivation to Modify Teaching section above, POSITAs would have been motivated to determine the current maximum RTD among the videoconference connections (as taught by Cai), and to use this value as the criteria for selecting the connection(s) to intentionally apply the controlled delay amount (namely to the stream(s) in the connection(s) that currently have RTDs less than this value (*e.g.*, stream 107-2 in connection between terminals 418-2 and 418-4)), without increasing the delay of the stream having current maximum RTD (*e.g.*, stream

107-1 of the connection between terminals 418-1 and 418-N) (as also taught by Cai). *Id.*; EX-1003, ¶¶146–147.

Pet. 61.

We start with Petitioner’s first argument that a person of ordinary skill in the art would have modified Larson in view of “background knowledge.” Pet. 60–61 (citing, e.g., Ex. 1006, 32–36, 38–39, 101–106, 170, 184, 209, 285; Ex. 1021, 26, 34, 36–37, 135; Ex. 1007, 15, 37, 128, 164–165; Ex. 1019, 1–3; Ex. 1020, 1–2; Ex. 1008, 1122, 1125-1129; Ex. 1009, 11, 14). Petitioner provides a citation to different references, including Cai. For ease of explanation, we first discuss the disclosures cited (“background knowledge art”) without reference to Cai and then address Petitioner’s arguments relating to Cai further below.

Petitioner’s background knowledge art describes transmission time, delay, and buffering and queuing techniques. *See, e.g.*, Ex. 1006, 32–39 (describing network transit time and measuring delay), 101–106 (describing using receiver reports for reception quality reporting), 170 (describing delay as a consideration in designing an RTP playout buffer), 184 (describing compensating for jitter), 209 (describing synchronizing streams), 285 (describing buffering longer when error correction is used); Ex. 1021, 26, 34, 36–37, 135; Ex. 1007, 15 (describing causes of delay in network transmission), 37 (describing the influence of heterogeneous environments and causes of delay in wireless and satellite links), 128 (describing tuning a buffer), 164–165 (describing delay as a congestion measure); Ex. 1019, 1–3 (describing quality of service controls as an effective solution to the “[h]eterogeneity [p]roblem” and the “[t]ransmission [p]roblem” (emphasis omitted)); Ex. 1020, 1–2 (describing dynamic flow control using packet loss rate and round trip time); Ex. 1008, 1122 (describing fair queuing schemes), 1125-1129 (describing adaptive bandwidth sharing with rate guarantees). Petitioner provides a string-citation to many pages of the different, unrelated references that purportedly

comprise the background knowledge art, with very little substantive explanation. In our view, this string-citation, without more substantive explanation, does not satisfy Petitioner's obligation to explain why a person of ordinary skill in the art would have modified Larson based on the background knowledge in the art to account for limitation 1.7.

Notably, Petitioner does not provide sufficient argument or explanation showing that the background knowledge art supports its position that a person of ordinary skill in the art would have known how to make the selection of which Larson's streams to delay. Also, Petitioner does not provide sufficient argument or explanation showing that a person of ordinary skill in the art would have known not to introduce delay to the video stream with the maximum (longest) current RTD in Larson's system. Petitioner also does not provide reasoning to modify Larson's teachings in light of the background knowledge art. Put simply, we are not persuaded by Petitioner's arguments regarding the background knowledge art because those arguments are not sufficiently explained. Pet. 60–61 (citing, e.g., Ex. 1006, 32–36, 38–39, 101–106, 170, 184, 209, 285; Ex. 1021, 26, 34, 36–37, 135; Ex. 1007, 15, 37, 128, 164–165; Ex. 1019, 1–3; Ex. 1020, 1–2; Ex. 1008, 1122, 1125–1129).

Petitioner also cites (Pet. 60–61) to its description of the “State of the Art.” In its “State of the Art” discussion, Petitioner argues that a person of ordinary skill in the art would have had “textbook knowledge” of two problems including (1) “delay sensitivity” of videoconferencing (*id.* at 25–27) and (2) heterogeneous “network transit delay (RTD)” (*id.* at 27–32). Petitioner argues that a person of ordinary skill in the art would have known to solve those problems by dynamically determining RTD and “choosing to intentionally delay transmission of the

stream(s) in the connection(s) that have less than the current maximum determined RTD.” *Id.* at 25–32.

In its discussion of dynamically determining RTD, Petitioner discusses the ’823 patent. *Id.* at 25–27 (citing Ex. 1001, 1:46–52, 3:46–4:3, 4:42–48, 4:60–62, 5:56–62). Petitioner, however, relies on the ’823 patent without showing that the disclosures relied on qualify as prior art to the ’823 patent. We are not persuaded by Petitioner’s argument because it is contrary to the principle that an inventor’s own work may not be considered prior art in the absence of a statutory basis. *Riverwood Intern. Corp. v. R.A. Jones & Co., Inc.*, 324 F.3d 1346, 1355 (Fed. Cir. 2003).

Petitioner’s “State of the Art” discussion (Pet. 25–32) suffers from deficiencies similar to those discussed with respect to Petitioner’s arguments regarding the background knowledge art. Petitioner does not provide sufficient argument or explanation showing that a person of ordinary skill in the art would have known how to make the selection of which Larson’s streams to delay. Also, Petitioner does not provide sufficient argument or explanation showing that a person of ordinary skill in the art would have known not to introduce delay to the video stream with the maximum (longest) current RTD in *Larson’s* system. Petitioner also does not provide reasoning to modify *Larson’s* teachings in light of the disclosures cited in the “State of the Art” discussion. *Id.* Put simply, we are not persuaded by Petitioner’s arguments regarding the “State of the Art” because those arguments are not sufficiently explained. *Id.*

We turn to Petitioner’s arguments for limitation [1.7] that a person of ordinary skill in the art would have modified Larson in view of Cai. Pet. 61–62. Regarding reasoning to apply Cai’s teachings to Larson, Petitioner argues the following:

[A]pplying Cai’s teachings would simply involve implementing known and standardized solutions to the “heterogeneity” and “delay sensitivity” problems that were well-known to exist in videoconferencing systems like Larson’s to achieve known and predictable benefits, *including reducing the delay variance across the various videoconference connections while also homogenizing the different participant experiences (by homogenizing the respective delays)* [without increasing the maximum round-trip delay for the logical two-way connections] with a reasonable expectation of success. *Id.*; §VII.A.3, §V.G.3 (EX-1008, 1122, 1125–1129; EX-1009, 14(§4.1)); compare EX-1001, 1:66–2:7.

Pet. 61–62 (emphasis in original) (emphasis added). Petitioner makes similar arguments elsewhere in the Petition, including with respect to limitation [1.3] and in a section entitled “Motivation to Combine the Teachings of Larson with the Teachings of Cai.” *See, e.g., id.* at 42 (arguing that Cai discloses benefits by addressing “the ‘delay sensitivity’ and ‘heterogeneous packet network connection’ problems of such applications while reducing delay variance” and “homogenizing the different participant experiences (by homogenizing the respective delays)”), 44 (arguing a person of ordinary skill in the art would have modified Larson using Cai’s features “because these features addressed the ‘heterogeneity’ and ‘delay sensitivity’ problems experience in the videoconferencing environment”), 55 (arguing Cai teaches “a known solution” with “known and predictable benefits including reducing the delay variance across the various videoconference connections while also homogenizing the different participant experiences (by homogenizing the respective delays), reducing buffering costs, and reducing the playout buffer for the video sources”).

Larson describes staggering “initiation of transmission of the video streams,” and Larson provides an “example” that “the video stream 107-1 from encoder 104-1 can start first, followed by video stream 107-2 from encoder 104-2, and then followed by video stream 107-N from encoder 104-N.” Ex. 1005 ¶¶ 31,

34 (cited in Pet. 59–60). Larson also describes transmitting “*later I-frames in a non-overlapping fashion.*” Ex. 1005 ¶ 33 (citing in Pet. 60) (emphases added).

Petitioner’s annotations to Figure 1 of Larson are reproduced below.

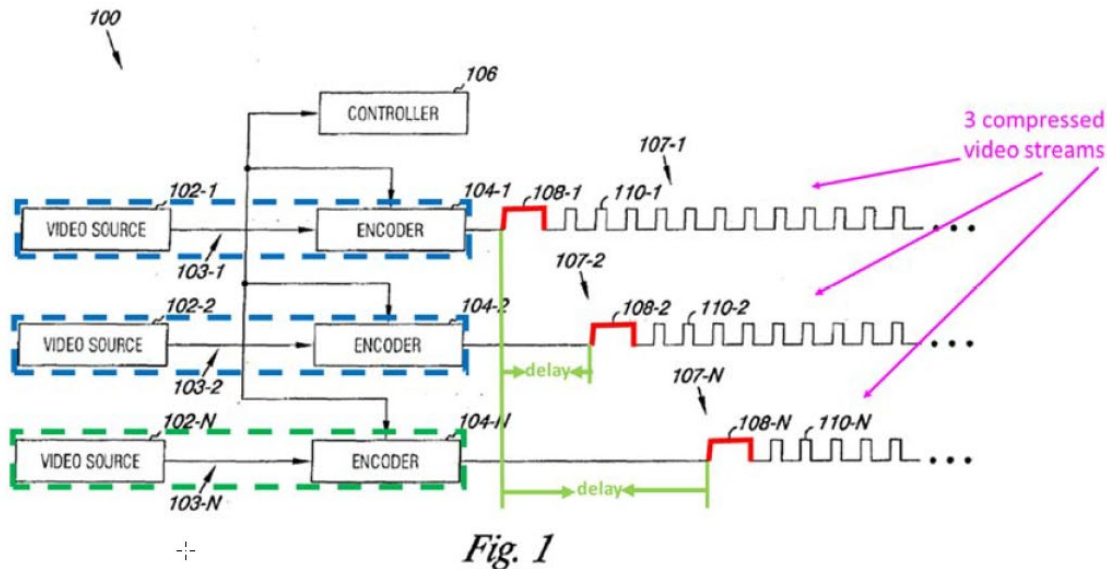


Figure 1 of Larson above illustrates system 100 including video sources 102-1, 102-2, 102-N that output uncompressed video streams 103-1, 103-2, 103-N to encoders 104-1, 104-2, 104-N (Ex. 1005 ¶¶ 22–23), which includes, among other annotations, annotations of (1) red highlighting of I-frames 108-1, 108-2, and 108-N, (2) a light green vertical line annotation that begins at the leading edge of I-frame 108-1 and extends downward perpendicular to video streams 107-2 and 107-N, (3) a light green textual annotation of “delay” from the light green vertical line to the leading edge of 108-2; and (4) a light green textual annotation of “delay” from the light green vertical line to the leading edge of 108-N. Pet. 59.

As shown in Figure 1, Larson’s system staggers transmission such that first video stream 107-1 is not delayed, second video stream 107-2 is transmitted after a short delay, and video stream 107-N is transmitted after a longer delay. Pet. 59; Ex. 1005, Fig. 1. In other words, Larson’s staggering is achieved by introducing different transmission delays for each video stream. Larson describes, more

specifically, an example in which “the controller can start the second video stream six frames after the first, and can start the third video stream twelve frames after the first.” Ex. 1005 ¶ 38.

Cai, on the other hand, describes two connections sharing a bottleneck link, but with different RTTs and throughput. Ex. 1009, 14. Cai describes, if the RTT of the first flow is less than the RTT of the second flow ($RTT_1 < RTT_2$), the DAL adjusts the rate of connection by adding a delay of $RTT_2 - RTT_1$ to its packets. *Id.*

Petitioner’s arguments that Cai’s disclosure would motivate a person of ordinary skill in the art to reduce delay variance and homogenize respective delays are conclusory, and do not address Larson’s teachings of staggering to introduce different amounts of transmission delay to avoid overlapping I-frame transmission. Pet. 42, 61–62 (citing, e.g., Ex. 1003 ¶¶ 113, 146–147). Petitioner also does not provide reasoning for modifying Larson’s staggering so as to delay transmission “without increasing the maximum round trip delay for the logical two-way connections” as required in limitation [1.7]. *Id.* Dr. Freedman’s testimony is substantially the same as Petitioner’s arguments and does not resolve the deficiency. Ex. 1003 ¶¶ 113, 146–148.

Furthermore, Petitioner’s argument that “applying Cai’s teachings would simply involve implementing known and standardized solutions” is contradictory to the disclosures of Cai. More specifically, Cai describes an “experiment,” not a known and standardized solution. Ex. 1009, 14 (describing “[i]n this experiment” and “[t]he experiment uses two connections”).

In the section entitled “Motivation to Combine the Teachings of Larson with the Teachings of Cai,” Petitioner, similarly, argues that a person of ordinary skill in the art “would be applying a known technique to a known method ready for improvement to achieve a known and predictable results.” Pet. 41 (citing Ex. 1003

¶ 109). We find based on the current record that Petitioner’s argument is conclusory and does not provide, with sufficient specificity, a reason to make Petitioner’s proposed combination that addresses Larson’s teachings of staggering initiation of transmission, much less why a person of ordinary skill in the art would have modified these teachings to incorporate Cai’s teachings of adding the delay of the second stream to the first stream. Dr. Freedman’s testimony is substantially the same as Petitioner’s arguments and does not resolve the deficiency. Ex. 1003 ¶ 109.

Petitioner also argues “[a]dditionally, POSITAs would readily recognize that the current maximum RTD was a suitable design choice among a finite number of network parameters from which this selection decision could be made.” Pet. 62 (citing Ex. 1003 ¶¶ 148–149). Petitioner makes similar arguments in the section entitled “Motivation to Combine the Teachings of Larson with the Teachings of Cai.” *See, e.g., id.* at 43 (arguing adding Cai’s features “would be a suitable design choice among a finite number of network parameters from which this selection decision could be made without adversely impacting the performance and user experience”).

Petitioner’s design choice contentions are conclusory. *See Cutsforth, Inc. v. Motive Power, Inc.*, 636 F. App’x 575, 578 (Fed. Cir. 2016) (nonprecedential) (“Merely stating” a modification “is a design choice does not make it obvious.”). Also, Petitioner identifies only a single alleged design choice (*see, e.g.,* Pet. 62). To the extent that other design choices would have been obvious to a person having ordinary skill in the art, Petitioner does not identify these other design choices or explain persuasively why a person having ordinary skill in the art would have chosen the particular combination and modification set forth in the Petition.

A determination of unpatentability on a ground of obviousness must include “articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR*, 550 U.S. at 418 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). In consideration of the record before us, we are not persuaded by Petitioner’s arguments regarding reasons to modify the teachings of Larson.

For the reasons given, we determine Petitioner has not has not shown that the asserted prior art teaches or suggests limitation [1.7]. Accordingly, we conclude that Petitioner has not demonstrated a reasonable likelihood that it would prevail in showing that claim 1 is unpatentable under 35 U.S.C. § 103(a) as obvious over Larson and Cai.

a) Conclusion—Claim 1

For the foregoing reasons, we determine that Petitioner has not demonstrated a reasonable likelihood that it would prevail in showing that claim 1 is unpatentable under 35 U.S.C. § 103(a) as obvious.

4. Dependent Claims 2–8

Claims 2–8 depend, directly or indirectly, from claim 1. Petitioner’s arguments and evidence for dependent claims 2–8 do not remedy the deficiencies discussed above with respect to claim 1. *See* Pet. 62–65.

Accordingly, for the same reasons we identify above with respect to claim 1, we conclude that Petitioner has not demonstrated a reasonable likelihood that it would prevail in showing that claims 2–8 are unpatentable under 35 U.S.C. § 103(a) as obvious.

IV. CONCLUSION

Based on the arguments and evidence presented by the parties, we conclude that Petitioner has not demonstrated a reasonable likelihood of prevailing with

respect to at least one claim of the '823 patent challenged in the Petition.

Therefore, we do not institute an *inter partes* review.⁶

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that the Petition is *denied*, and no *inter partes* review is instituted.

⁶ Because we deny the Petition on the merits, we do not reach Patent Owner's request that we exercise our discretion to deny the Petition based on the advanced state of the related litigation. *See* Prelim. Resp. 28–39.

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