

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re reexamination of: Brueck et al.

U.S. Patent No. 10,469,555

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Inventors: David F. Brueck; Mark B. Hurst;
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Title: APPARATUS, SYSTEM, AND
METHOD FOR MULTI-BITRATE
CONTENT STREAMING

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Reexam Group AU: Not yet assigned

PATENT & TRADEMARK OFFICE

REQUEST FOR *EX PARTE* REEXAMINATION OF U.S. PATENT NO. 10,469,555

via EFS-Web
Mail Stop *Ex Parte* Reexam
Attn: Central Reexamination Unit
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

Aylo Freesites Ltd (“Requester”) submits this Request for *Ex Parte* Reexamination under 35 U.S.C. § 302 and 37 C.F.R. § 1.510 of U.S. Patent No. 10,469,555 (the “’555 Patent”) to Brueck et al., titled “APPARATUS, SYSTEM, AND METHOD FOR MULTI-BITRATE CONTENT STREAMING.” In accordance with 37 C.F.R. § 1.510(b)(4), a copy of the ’555 Patent is enclosed hereto as Ex. 1. The ’555 Patent is purportedly assigned to DISH Technologies, L.L.C. (“DISH”) according to the United States Patent and Trademark Office (“USPTO” or “Office”) records at the time of this request.

***Request for Reexamination of
U.S. Patent No. 10,469,555***

The reexamination fee of \$13,545.00 under 37 C.F.R. § 1.20(c)(2) is included with this Request.

Pursuant to 37 C.F.R. § 1.510, this Request for *Ex Parte* Reexamination includes:

1. A statement pointing out each substantial new question of patentability based on prior art patents and printed publications;
2. An identification of every claim for which reexamination is requested and a detailed explanation of the pertinency and manner of applying the cited prior art to every claim for which reexamination is requested;
3. A copy of every patent or printed publication relied upon or referred to herein, attached as Exs. 3-6;
4. A copy of the entire '555 Patent for which reexamination is requested, including any disclaimer, certificate of correction, or reexamination certificate issued in the patent;
5. A certification that a copy of the Request filed by Requester has been served in its entirety on the patent owner at the address as provided for in 37 C.F.R. § 1.33(c) (filed separately);
6. A certification that the statutory estoppel provisions of 37 C.F.R. § 315(e)(1) or 37 C.F.R. § 325(e)(1) do not prohibit the Requester from filing the *Ex Parte* Reexamination Request; and
7. The appropriate fee under 37 C.F.R. § 1.20(c). The Commissioner is authorized to charge any additional fees, or to credit any overpayment, to Deposit Account No. 22-0261.

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	[1.e] wherein the amount of data in each streamlet corresponding to the same part of the live event video in the low quality stream, the medium quality stream, and the high quality stream varies according to the different bitrates; and the plurality of streamlets in the low quality stream, the medium quality stream, and the high quality stream having a duration that is the same as each other.	37
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[1.d]	wherein at least one of the low quality stream, the medium quality stream, and the high quality stream is encoded at a bitrate of no less than 600 kbps;.....	54
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[10.c.1]	establish one or more network connections between the client module and the server,	57
[10.c.2]	wherein the server is configured to access at least one of a plurality of groups of streamlets;	57
[10.c.3]	wherein the video is encoded at a plurality of different bitrates to create a plurality of streams including at least a low quality stream, a medium quality stream, and a high quality stream,	57

[10.c.4]	wherein each of the low quality stream, the medium quality stream, and the high quality stream comprises a streamlet that encodes the same portion of the video at a different one of the plurality of different bitrates;.....	57
[10.c.5]	wherein at least one of the low quality stream, medium quality stream, and high quality stream is encoded at a bit rate of no less than 600 kbps; and.....	57
[10.c.6]	wherein the streamlet encoding the same portion of the video in the low quality stream has an equal playback duration as the streamlet encoding the same portion of the video in the high quality stream;.....	57
[10.d]	select a specific one of the streams based upon a determination by the client module to select a higher or lower bitrate version of the streams;	58
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[18.b]	the live event video encoded at a plurality of different bit rates creating a plurality of streams including at least a low quality stream and a high quality stream;.....	59
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	[1.d] wherein at least one of the low quality stream, the medium quality stream, and the high quality stream is encoded at a bitrate of no less than 600 kbps;.....	63
	[1.e] wherein the amount of data in each streamlet corresponding to the same part of the live event video in the low quality stream, the medium quality stream, and the high quality stream varies according to the different bitrates; and the plurality of streamlets in the low quality stream, the medium quality stream, and the high quality stream having a duration that is the same as each other.....	64
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	[10.a] a processor;	66
	[10.b] a digital processing apparatus memory device comprising non-transitory machine-readable instructions that, when executed, cause the processor to:	66
	[10.c.1] establish one or more network connections between the client module and the server,	66
	[10.c.2] wherein the server is configured to access at least one of a plurality of groups of streamlets;	66
	[10.c.3] wherein the video is encoded at a plurality of different bitrates to create a plurality of streams including at least a low quality stream, a medium quality stream, and a high quality stream,	66
	[10.c.4] wherein each of the low quality stream, the medium quality stream, and the high quality stream comprises a streamlet that encodes the same portion of the video at a different one of the plurality of different bitrates;	66
	[10.c.5] wherein at least one of the low quality stream, medium quality stream, and high quality stream is encoded at a bit rate of no less than 600 kbps; and	67
	[10.c.6] wherein the streamlet encoding the same portion of the video in the low quality stream has an equal playback duration as the streamlet encoding the same portion of the video in the high quality stream;	67
	[10.d] select a specific one of the streams based upon a determination by the client module to select a higher or lower bitrate version of the streams;	67
	[10.e] place a streamlet request to the server over the one or more network connections for the selected stream;	67

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	[18.c] the low quality stream and the high quality stream each encoding the same portion of the live event video with a streamlet that is encoded a different one of the different bit rates;.....	69
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Exhibit No.	Description	Abbreviation
Exhibit 1	U.S. Patent No. 10,469,555 to Brueck et al.	'555 Patent
Exhibit 2	Declaration of Henry Houh	Houh Decl.
Exhibit 2A	Curriculum Vitae of Henry Houh	Houh CV
Exhibit 3	International PCT Publication WO 2002049343 to Leaning et al.	Leaning
Exhibit 4	International PCT Publication WO 2002/075482 A2 to Allen	Allen
Exhibit 5	U.S Patent No. 7,412,516 to Brown et al.	Brown
Exhibit 6	International PCT Publication WO 2004/030310 to Reme	Reme
Exhibit 7	U.S. Patent No. 6,848,004 to Chang	Chang
Exhibit 8	International PCT Publication WO 1997044942 to Kliger	Kliger
Exhibit 9	337-TA-1265 ITC Investigation Initial Determination	337-TA-1265 ID
Exhibit 10	337-TA-1265 ITC September 11, 2023 Enforcement Complaint	337-TA-1265 Enf. Compl.

CLAIM LISTING¹

- [1.pre] 1. A system for adaptive-rate content streaming of live event video playable on one or more end user stations over the Internet, the system comprising:
- [1.a] at least one storage device storing live event video,
 - [1.b] the live event video encoded at a plurality of different bitrates creating a plurality of streams including a low quality stream, a medium quality stream, and a high quality stream,
 - [1.c] the low quality stream, the medium quality stream, and the high quality stream each comprising a group of streamlets encoded at a respective one of the plurality of different bitrates;
 - [1.d] wherein at least one of the low quality stream, the medium quality stream, and the high quality stream is encoded at a bitrate of no less than 600 kbps;
 - [1.e] wherein the amount of data in each streamlet corresponding to the same part of the live event video in the low quality stream, the medium quality stream, and the high quality stream varies according to the different bitrates; and the plurality of streamlets in the low quality stream, the medium quality stream, and the high quality stream having a duration that is the same as each other.
2. The system of claim 1, wherein the low quality stream is encoded at a bit rate of no greater than 100 kbps, and the medium quality stream is encoded at a bit rate between 100 kbps and 600 kbps.

6. The system of claim 1, wherein the live event is a live sports event.

- [10.pre] 10. A content player device to stream a video over a network from a server for playback of the video, the content player device comprising:
- [10.a] a processor;
 - [10.b] a digital processing apparatus memory device comprising non-transitory machine-readable instructions that, when executed, cause the processor to:
 - [10.c.1] establish one or more network connections between the client module and the server,
 - [10.c.2] wherein the server is configured to access at least one of a plurality of groups of streamlets;
 - [10.c.3] wherein the video is encoded at a plurality of different bitrates to create a plurality of streams including at least a low quality stream, a medium quality stream, and a high quality stream,
 - [10.c.4] wherein each of the low quality stream, the medium quality stream, and the high quality stream comprises a streamlet that encodes the same portion of the video at a different one of the plurality of different bitrates;
 - [10.c.5] wherein at least one of the low quality stream, medium quality stream, and high quality stream is encoded at a bit rate of no less than 600 kbps; and

¹ Reference labels have been added in brackets to facilitate identification of claim limitations.

- [10.c.6] wherein the streamlet encoding the same portion of the video in the low quality stream has an equal playback duration as the streamlet encoding the same portion of the video in the high quality stream;
- [10.d] select a specific one of the streams based upon a determination by the client module to select a higher or lower bitrate version of the streams;
- [10.e] place a streamlet request to the server over the one or more network connections for the selected stream;
- [10.f] receive the requested streamlets from the server via the one or more network connections; and
provide the received streamlets for playback of the video..

12. The content player device of claim 10, wherein the low quality stream is encoded at a bit rate of no greater than 100 kbps and the medium quality stream is encoded at a bit rate between 100 kbps and 600 kbps.

[18.pre] 18. A system for adaptive-rate content streaming of live event video playable on one or more end user stations over the internet, the system comprising:

- [18.a] at least one storage device configured to store live event video,
- [18.b] the live event video encoded at a plurality of different bit rates creating a plurality of streams including at least a low quality stream and a high quality stream;
- [18.c] the low quality stream and the high quality stream each encoding the same portion of the live event video with a streamlet that is encoded a different one of the different bit rates;
- [18.d] wherein the plurality of streamlets in the low quality stream and the plurality of streamlets in the high quality stream have durations that are equal to each other.

20. The system of claim 18 wherein the plurality of streams further comprise a medium quality stream encoded at a bit rate higher than the low quality stream and lower than the high quality stream.

21. The system of claim 20 wherein the low quality stream is encoded at a bit rate of no less than 100 kbps, the high quality stream is encoded at a bit rate of no less than 600 kbps, and the medium quality stream is encoded at a bit rate between 100 kbps and 600 kbps.

I. IDENTIFICATION OF CLAIMS FOR WHICH REEXAMINATION IS REQUESTED

In accordance with 37 C.F.R. § 1.510, reexamination of Claims 2, 6, 12, and 21 of the '555 Patent (the "Reexam Claims")² is requested in view of the following references:

- International PCT Publication WO 2002049343 to Leaning et al. (Ex. 3)
- International PCT Publication WO 2002/075482 A2 to Allen (Ex. 4)
- U.S Patent No. 7,412,516 to Brown et al. (Ex. 5)
- International PCT Publication WO 2004/030310 to Reme (Ex. 6)

The declaration of Henry Houh ("Houh Decl." enclosed as Ex. 2) further supports this reexamination, including his opinions as to a POSITA (defined below) explaining why a prior art combination renders certain claim limitations obvious and why there would be a motivation to combine and a reasonable expectation of success, among other opinions. *Randall Mfg. v. Rea*, 733 F.3d 1355, 1362 (Fed. Cir. 2013) (In *inter partes* reexamination, "[b]y narrowly focusing on the four prior-art references cited by the Examiner and ignoring the additional record evidence Randall cited to demonstrate the knowledge and perspective of one of ordinary skill in the art,

² As Reexam Claims 2 and 6 depend from independent Claim 1, this Request addresses the limitations of Claim 1 as needed to establish unpatentability of Reexams Claims 2 and 6. Similarly, as Reexam Claim 12 depends from independent Claim 10, and Reexam Claim 21 depends from dependent Claim 20, which depends from independent Claim 18, this Request addresses the limitations of Claims 10, 18, and 20 as needed to establish unpatentability of Reexam Claims 12 and 21. Requester notes that *dependent Claims 2, 6, 12, and 21 are the only claims being challenged in this Reexamination Request.*

the Board failed to account for critical background information that could easily explain why an ordinarily skilled artisan would have been motivated to combine or modify the cited references to arrive at the claimed inventions. As *KSR* established, the knowledge of such an artisan is part of the store of public knowledge that must be consulted when considering whether a claimed invention would have been obvious.”); *Unwired Planet, LLC v. Google Inc.*, 841 F.3d 995, 1003 (Fed. Cir. 2016) (“[T]he Court [in *KSR*] explained that a rationale to combine could arise from interrelated teachings of . . . the background knowledge possessed by a person having ordinary skill in the art.”) (internal quotation marks omitted).

A subset of the Reexam Claims is presently being asserted by DISH against Requester in *DISH Technologies LLC et al v. Aylo Freesites Ltd. f/k/a MG Freesites Ltd. et al.* 2:24-cv-00066 (D. Utah) and *Aylo Freesites Ltd. f/k/a MG Freesites Ltd. v. DISH Technologies LLC et al.* 1-24-cv-00086 (D. Del.). See Table 1 in Section IV.B below. Pursuant to 37 C.F.R. § 1.510, *ex parte* reexamination is available “at any time during the period of enforceability of a patent.” The ’555 Patent was filed on January 18, 2019 (as application number 16/252,356), and the face and second page of the ’555 Patent assert that it is a continuation of Application No. 16/252,188, filed on January 18, 2019 (now U.S. Patent No. 10,469,554), which is a continuation of Application No. 16/004,056, filed on June 8, 2018 (now U.S. Patent No. 10,659,513), which is a continuation of Application No. 15/414,025, filed on January 24, 2017, now U.S. Patent No. 9,998,516, which is a continuation of Application No. 14/719,122, filed on May 21, 2015, now U.S. Patent No. 9,571,551, which is a continuation of Application No. 14/106,051, filed on December 13, 2013, now U.S. Patent No. 9,071,668, which is a continuation of Application No. 13/617,114, filed on September 14, 2012, now U.S. Patent No. 8,612,624, which is a continuation of Application No. 12/906,940, filed on October 18, 2010, now U.S. Patent No.

8,402,156, which is a continuation-in-part of application No. 11/673,483, filed on February 9, 2007, now U.S. Patent No. 7,818,444, which is a continuation-in-part of application No. 11/116,783, filed on April 28, 2005, now U.S. Patent No. 8,868,772. As discussed in Section II.D below, Requester contends that the earliest priority date is April 30, 2004.

The '555 Patent expired on April 28, 2025. Accordingly, the '555 Patent is eligible for *ex parte* reexamination because the '555 Patent is within the period of enforceability. *See* MPEP § 2211 (explaining that, in assessing eligibility for *ex parte* reexamination, “the period of enforceability is generally determined by adding 6 years to the date on which the patent expires”).

II. OVERVIEW OF THE '555 PATENT

A. Description of the '555 Patent

The '555 Patent (application number 16/252,356) was filed on January 18, 2019, which is a continuation of Application No. 16/252,188 (U.S. 10,469,544), which is a continuation of Application No. 16/004,056, (U.S. 10,659,513), which is a continuation of Application No. 15/414,025 (U.S. 9,998,516), which is a continuation of Application No. 14/719,122 (U.S. 9,571,551), which is a continuation of Application No. 14/106,051 (U.S. 9,071,668), which is a continuation of Application No. 13/617,114 (U.S. 8,612,624), which is a continuation of Application No. 12/906,940 (U.S. 8,402,156), which is a continuation-in-part of Application No. 11/673,483 (U.S. 7,818,444), which is a continuation-in-part of Application No. 11/116,783 (U.S. 8,868,772), which claims priority to U.S. Provisional No. 60/566,831 filed on April 30, 2004. The '555 Patent issued on November 5, 2019. ('555 Patent, Cover, 2).

The '555 Patent purports to relate to “multi-bitrate content streaming,” such as video, over the Internet. (*Id.*, Abstract, 1:31-34). The '555 Patent describes “a receiving module” to

“capture media content,” a streamlet module to “segment the media content and generate a plurality of streamlets,” and “encoding module” to “generate a set of streamlets” such that the set of streamlets has a plurality of streamlets “having identical time indices and durations” and “a unique bitrate.” (*Id.*, Abstract).

One embodiment of the system of the '555 Patent includes “a content server 102” and “end user station 104” coupled by a data communications network (*e.g.*, “the Internet 106”) wherein the “end user station 104” may be a personal computer, entertainment system, or a portable electronic device configured to present content. (*Id.*, FIG. 1, 6:36-47). As shown in Figure 2b below, the '555 Patent describes encoding the same content file 200 into at least three different “quality” streams.

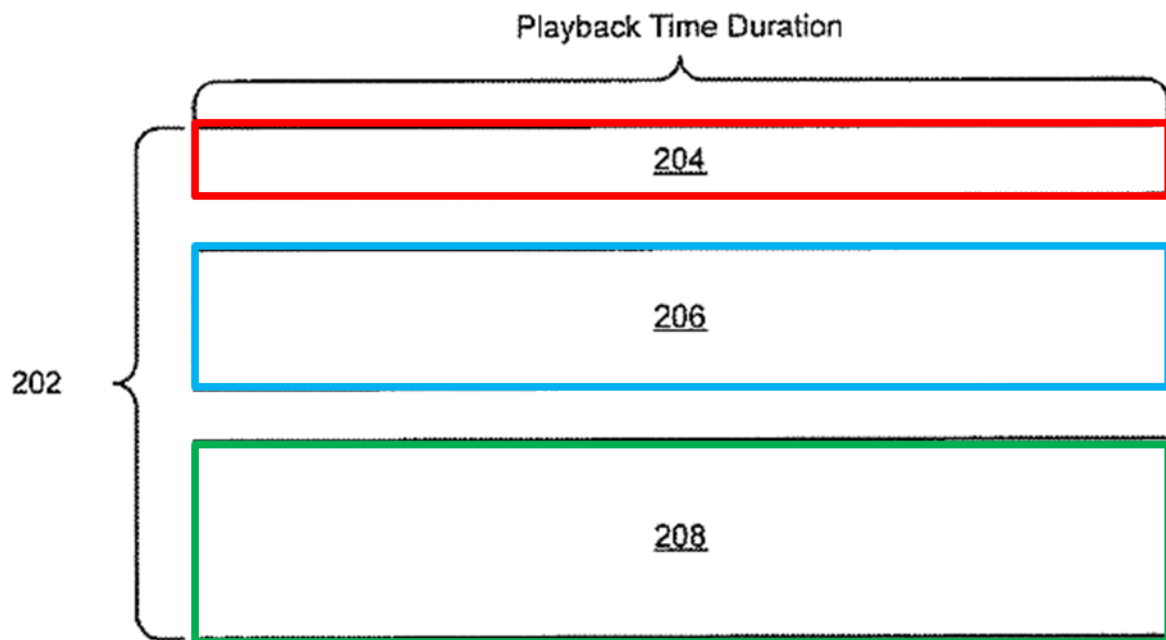


FIG. 2b

(*Id.*, FIG. 2b (annotated, low quality (red, 204), medium quality (blue, 206), and high quality (green, 208)), 7:25-31).

For example, “low quality stream 204 may be encoded and compressed to a bit rate of 100 kilobits per second (kbps), the medium quality stream 206 may be encoded and compressed to a bit rate of 200 kbps, and the high quality stream 208 may be encoded and compressed to 600 kbps.” (*Id.*, 7:31-36).

Each stream (204, 206, and 208) is also “divided into a plurality of source streamlets 303” where “streamlet refers to any sized portion of the content file” and may be “an independent media object” where “streamlet 0 may have a time index of 00:00 representing the beginning of content playback, and streamlet 1 may have a time index of 00:02, and so on.” (*Id.*, 7:37-49). This is shown in Figure 3a below.



FIG. 3a

(*Id.*, FIG. 3a (annotated)).

These sets of streamlets are stored in a “streamlet database 408” and then a “client module 114 may request streamlets 304 using HTTP from the web server 116” or “a plurality of web servers 116.” (*Id.*, 9:1-4, 9:30-40). Further, the '555 Patent explains that the invention may be used to stream “live” content files on a short delay because “two-pass encoding to a plurality of streams 202 may be performed on each corresponding raw streamlet without waiting” for the

end of a program and the streamlets may be streamed “over the Internet shortly after the content module 112 begins capture of the content file 200.” (*Id.*, 10:44-56).

To stream content, the client module 114’s “agent controller module 702 is configured to select a quality level of streamlets to transmit to the viewer” and “requests lower or higher quality streams based upon continuous observation of time intervals between successive receive times of each requested streamlet.” (*Id.*, 13:3-26). The “agent controller module 702 receives 1004 a streamlet” and “monitors 1006 the receive time of the requested streamlet” such as time intervals between successive receive times for each streamlet response and “calculates 1008 a performance ratio” and “obtain[s] a performance factor.” (*Id.*, 17:6-40, FIGs. 9 and 10). The agent control module determines whether to upshift or downshift the stream quality based upon comparing the performance factor versus trigger thresholds and makes a “determination of whether use of the higher quality stream is sustainable.” (*Id.*, 17:41-18:14).

B. The Reexam Claims

The Reexam Claims are reproduced above starting at page xiv. The Reexam Claims are dependent claims: Reexam Claims 2 and 6 each depend from independent Claim 1; Reexam Claim 12 depends from independent Claim 10; and Reexam Claim 21 depends from dependent Claim 20, which depends from independent Claim 18.

C. Summary of the ’555 Patent Prosecution History

The ’555 Patent was filed as Application No. 16/252,356 on January 18, 2019. On March 22, 2019, the Examiner issued a non-final rejection of all pending claims including non-statutory double patenting and prior art rejections over U.S. Patent No. 7,369,610 (Xu et al.), U.S. Publication No. 2005/0055425 (Lango et al.), U.S. Publication No. 2003/0103571 (Meehan),

U.S. Patent No. 6,496,980 (Tillman et al.), U.S. Publication No. 2003/0023982 (Lee et al.), U.S. Patent No. 5,812,786 (Seazholtz et al.), and US Patent No. 7,934,159 (Rahman et al.).

On June 20, 2019, Applicant amended the claims (including canceling claims 10-30 and adding new claims 31-48) and traversed the Examiner's rejection. Applicant argued the filed terminal disclaimer obviated the non-statutory double patent rejection and argued that the cited prior art in the rejection lacked "groups of streamlets that encode the same portions of the video program at different bit rates." In response, the Examiner issued a Notice of Allowance on September 9, 2019.

D. Priority Date of Reexam Claims: April 30, 2004

Requester assumes for the purpose of this Request a priority date of April 30, 2004 (the "Priority Date") based on the claimed priority to Provisional Application No. 60/566,831 ('555 Patent, 2), but Requester reserves the right to contest this priority date (and priority chain) in other proceedings.

III. LEVEL OF SKILL IN THE ART

Requester submits that a person of ordinary skill in the art ("POSITA") as of the Priority Date would have had at least a B.S. degree in computer science or electrical engineering (or comparable degree) and two years of experience in networking or streaming media, or a M.S. in computer science or electrical engineering (or comparable degree). (Houh Decl., ¶ 44). A higher level of education or specific skill might make up for less experience, and vice-versa. (*Id.*).³

³ In IPR2024-00146, the PTAB adopted this definition of a POSITA in its Final Written

Decision, noting that it was "satisfied that this definition of the level of skill is consistent with

Nevertheless, Requester submits that the Reexam Claims are obvious in view of any reasonable POSITA definition.

IV. NOTIFICATION OF CONCURRENT PROCEEDINGS PURSUANT TO 37 C.F.R. § 1.565

A. Prior '555 Patent *Inter Partes* Review Proceedings

Requester previously filed a petition for *Inter Partes* Review (“IPR”) on the '555 Patent on three grounds: (1) Claims 18-19 are anticipated by U.S. Patent No. 6,161,137 (“Ogdon”); (2) Claims 1, 3-5, 7-11, 13-20, and 22-27 are obvious over Ogdon in view of International P.C.T. Publication WO 2002/075482 A2 (“Allen”); and (3) Claims 1, 3-5, 7-11, 13-20, and 22-27 are obvious over Ogdon in view of Allen and Synchronized Multimedia Integration Language (SMIL 2.0) (“SMIL 2.0”). *Aylo Freesites Ltd v. DISH Technologies L.L.C.*, IPR2024-00146 (“Ogdon IPR”), Paper 1 at 1, 3 (Nov. 7, 2023). The Ogdon IPR did not challenge any of the Reexam Claims.

Requester previously filed an additional petition for IPR on the '555 Patent on two grounds: (1) Claims 18-20, 22, and 26-27 are anticipated by International PCT Publication WO 2002049343 (“Leaning”); and (2) Claims 1-5, 7-17, 21, and 23-25 are obvious over Leaning in view of Allen. *Aylo Freesites Ltd v. DISH Technologies L.L.C.*, IPR2024-00515 (“Leaning IPR”), Paper 1 at 1, 4 (Jan. 30, 2024). The Leaning IPR challenged Reexam Claims 2, 12, and 21, but did not challenge Reexam Claim 6.

the teachings of the '555 patent and the asserted prior art.” *Aylo Freesites Ltd v. DISH Technologies L.L.C.*, IPR2024-00146, Paper 57 at 11 (PTAB Apr. 17, 2025).

In the Ogdon IPR, the PTAB instituted trial and ultimately issued a Final Written Decision determining that Claims 1, 3, 5, 10, 11, 13-15, 18-20, 26, and 27 were shown unpatentable, while Claims 4, 7-9, 16, 17, and 22-25 were not shown unpatentable. *Aylo Freesites Ltd v. DISH Technologies L.L.C.*, IPR2024-00146, Paper 57 at 96 (PTAB Apr. 17, 2025). While not relevant to this Request, Requester respectfully disagrees with the PTAB's decision in the Ogdon IPR that certain claims were not shown unpatentable.

In the Leaning IPR, the PTAB discretionarily denied institution on all grounds based on the factors set forth in *General Plastic Indus. Co. v. Canon Kabushiki Kaisha*, IPR2016-01357, Paper 19 (PTAB Sept. 6, 2017). The PTAB did not reach any of the merits of the petition's grounds based on Leaning or Leaning in view of Allen. *Aylo Freesites Ltd v. DISH Technologies L.L.C.*, IPR2024-00515, Paper 14 at 9-22 (PTAB Aug. 7, 2024).

The above PTAB decisions have no bearing here because, as explained below in Sections XI and XII, Requester is not challenging any claims whose patentability were addressed in a final written decision, nor should they persuade the Office to deny this Request on discretionary grounds. Moreover, some of the grounds in this Request were not asserted in the above IPRs.

Accordingly, Requester believes (as explained in Section VI.B below) this Request raises multiple SNQPs on the Reexam Claims.

B. Listing of DISH Proceedings

Tables 1-5 below outline the DISH litigations and USPTO proceedings for the '555 Patent and related U.S. patents, as indicated.

Table 1: Pending DISH Litigations Asserting the '555 Patent

No.	Case Caption	Court
1	<i>Aylo Freesites Ltd. f/k/a MG Freesites Ltd. v. DISH Technologies L.L.C. et al.</i> , 1:24-cv-00086	District of Delaware

No.	Case Caption	Court
2	<i>DISH Technologies L.L.C. et al v. Aylo Freesites Ltd. f/k/a MG Freesites Ltd. et al.</i> , 2:24-cv-00066	District of Utah
3	<i>DISH Technologies L.L.C. v. Yanka Industries, Inc. d/b/a MasterClass</i> , 1:23-cv-01305	District of Delaware
4	<i>DISH Technologies L.L.C. et al v. BritBox, LLC</i> , 1:23-cv-08971	Southern District of New York
5	<i>DISH Technologies L.L.C. et al v. Vidgo Inc.</i> , 2:23-cv-00624	District of Utah
6	<i>DISH Technologies L.L.C. v. fuboTV Media Inc.</i> , 1:23-cv-00986	District of Delaware

Table 2: Concluded DISH Litigations Asserting the '555 Patent

No.	Case Caption	Court
7	<i>MG Freesites Ltd et al. v. DISH Technologies LLC et al.</i> , 3:23-cv-03674	Northern District of California
8	<i>iFIT Inc. v. ITC</i> , 23-1965, which is an appeal from Investigation No. 337-TA-1265 (ITC)	Federal Circuit
9	<i>DISH Technologies L.L.C. v. A Parent Media Co. Inc. et al.</i> , 1:23-cv-01000	District of Delaware
10	<i>DISH Technologies L.L.C. v. Beachbody, LLC d/b/a BODi</i> , 1:23-cv-00987	District of Delaware
11	<i>DISH Technologies L.L.C. v. ICON Health & Fitness, Inc.</i> , 1:21-cv-00531	District of Delaware
12	<i>DISH Technologies L.L.C. v. Lululemon Athletica Inc.</i> , 1:21-cv-00532	District of Delaware
13	<i>DISH Technologies L.L.C. v. Peloton Interactive, Inc.</i> , 2:21-cv-00132	Eastern District of Texas

Table 3: Inter Partes Reviews as to the '555 Patent

No.	Case Caption	Status	Patent
14	<i>Aylo Freesites Ltd v. DISH Technologies L.L.C.</i> , IPR2024-00146 (Ogdon IPR)	Instituted; FWD Issued	10,469,555
15	<i>Aylo Freesites Ltd v. DISH Technologies L.L.C.</i> , IPR2024-00515 (Leaning IPR)	Not Instituted	10,469,555
16	<i>fuboTV Media Inc. v. DISH Technologies L.L.C.</i> , IPR2024-00905	Instituted; Joined with IPR2024-00146; FWD Issued	10,469,555

Table 4: Inter Partes Reviews as to Related Patents

No.	Case Caption	Status	Patent
17	<i>Aylo Freesites Ltd v. DISH Technologies L.L.C.</i> , IPR2024-00043	Instituted; FWD Issued	11,677,798

***Request for Reexamination of
U.S. Patent No. 10,469,555***

No.	Case Caption	Status	Patent
18	<i>Aylo Freesites Ltd v. DISH Technologies L.L.C.</i> , IPR2024-00044	Instituted; FWD Issued	11,470,138
19	<i>Aylo Freesites Ltd v. DISH Technologies L.L.C.</i> , IPR2024-00045	Instituted; FWD Issued	10,469,554
20	<i>Aylo Freesites Ltd v. DISH Technologies L.L.C.</i> , IPR2024-00046	Instituted; FWD Issued	10,951,680
21	<i>Aylo Freesites Ltd v. DISH Technologies L.L.C.</i> , IPR2024-00047	Not Instituted	9,407,564
22	<i>Aylo Freesites Ltd v. DISH Technologies L.L.C.</i> , IPR2024-00048	Not Instituted	8,868,772
23	<i>Aylo Freesites Ltd v. DISH Technologies L.L.C.</i> , IPR2024-00147	Not Instituted	10,757,156
24	<i>Aylo Freesites Ltd v. DISH Technologies L.L.C.</i> , IPR2024-00512	Not Instituted	11,470,138
25	<i>Aylo Freesites Ltd v. DISH Technologies L.L.C.</i> , IPR2024-00513	Not Instituted	10,757,156
26	<i>Aylo Freesites Ltd v. DISH Technologies L.L.C.</i> , IPR2024-00514	Not Instituted	10,469,554
27	<i>Aylo Freesites Ltd v. DISH Technologies L.L.C.</i> , IPR2024-00516	Not Instituted	10,951,680
28	<i>Aylo Freesites Ltd v. DISH Technologies L.L.C.</i> , IPR2024-00517	Not Instituted	11,677,798
29	<i>Aylo Freesites Ltd v. DISH Technologies L.L.C.</i> , IPR2024-00518	Not Instituted	9,407,564
30	<i>Aylo Freesites Ltd v. DISH Technologies L.L.C.</i> , IPR2024-00519	Not Instituted	8,868,772
31	<i>fuboTV Media Inc. v. DISH Technologies L.L.C.</i> , IPR2024-00901	Instituted; Joined with IPR2024-00043; FWD Issued	11,677,798
32	<i>fuboTV Media Inc. v. DISH Technologies L.L.C.</i> , IPR2024-00902	Instituted; Joined with IPR2024-00044; FWD Issued	11,470,138
33	<i>fuboTV Media Inc. v. DISH Technologies L.L.C.</i> , IPR2024-00903	Instituted; Joined with IPR2024-00045; FWD Issued	10,469,554
34	<i>fuboTV Media Inc. v. DISH Technologies L.L.C.</i> , IPR2024-00904	Instituted; Joined with IPR2024-00046; FWD Issued	10,951,680
35	<i>fuboTV Media Inc. v. DISH Technologies L.L.C.</i> , IPR2024-00917	Instituted	10,757,156

No.	Case Caption	Status	Patent
36	<i>fuboTV Media Inc. v. DISH Technologies L.L.C.</i> , IPR2024-00918	Instituted	9,407,564
37	<i>fuboTV Media Inc. v. DISH Technologies L.L.C.</i> , IPR2024-00919	Instituted	8,868,772
38	<i>Aylo Freesites Ltd v. DISH Technologies L.L.C.</i> , IPR2024-00940	Instituted	11,991,234
39	<i>Aylo Freesites Ltd v. DISH Technologies L.L.C.</i> , IPR2024-00941	Not Instituted	11,991,234
40	<i>WebGroup Czech Republic A.S. v. DISH Technologies L.L.C.</i> , IPR2025-00467	Institution Decision Pending	10,469,554
41	<i>WebGroup Czech Republic A.S. v. DISH Technologies L.L.C.</i> , IPR2025-00468	Institution Decision Pending	10,951,680
42	<i>WebGroup Czech Republic A.S. v. DISH Technologies L.L.C.</i> , IPR2025-00469	Institution Decision Pending	11,470,138
43	<i>WebGroup Czech Republic A.S. v. DISH Technologies L.L.C.</i> , IPR2025-00470	Institution Decision Pending	11,677,798

Table 5: Ex Parte Reexaminations as to Related Patents

No.	Case Caption	Status	Patent
44	<i>In re: Reexamination of U.S. Patent No. 8,868,772</i> , 90/019,670	Reexam Ordered; Stayed	8,868,772
45	<i>In re: Reexamination of U.S. Patent No. 9,407,564</i> , 90/019,671	Reexam Ordered; Stayed	9,407,564
46	<i>In re: Reexamination of U.S. Patent No. 10,757,156</i> , 90/019,672	Reexam Ordered; Stayed	10,757,156

In view of the concurrent litigations between DISH and Requester, including *Aylo Freesites Ltd. f/k/a MG Freesites Ltd. v. DISH Technologies L.L.C. et al.*, 1:24-cv-00086 (D. Del.) and *DISH Technologies L.L.C. et al v. Aylo Freesites Ltd. f/k/a MG Freesites Ltd. et al.*, 2:24-cv-00066 (D. Utah) (Nos. 1 and 2 in Table 1), it is respectfully urged that this Request be granted and reexamination be conducted not only with “special dispatch,” but also with “priority over all other cases” in accordance with MPEP § 2261.

V. RELATED REEXAMINATION PROCEEDINGS

Requester is aware of the proceedings indicated above in Tables 1-5.

**VI. STATEMENT POINTING OUT EACH SUBSTANTIAL NEW QUESTION OF
PATENTABILITY**

A. Background on the Prior Art Forming the SNQPs

1. State of the Art

The '555 Patent admits in the "Description of Related Art" section that "[s]treaming media" was known, including streaming of "audio/video" where "quality that can be received for real time presentation is constrained by the available bandwidth of the user's network connection." ('555 Patent, 1:47-56). The '555 Patent further admits that streaming was used "to deliver content on demand (previously recorded) or from live broadcasts." (*Id.*, 1:56-57).

Before the alleged Priority Date, "client-pull" streaming systems were known in the art wherein a client requested from a server sequential portions of a file at different encoded quality levels based on network bandwidth. (Houh Decl., ¶ 46). For example, U.S. Patent No. 6,848,004 ("Chang")⁴ describes "real time measurement and prediction of bandwidth for adaptive content delivery of rich media according to available user bandwidth." (Chang, Abstract). Chang discloses a client (via Java applets) that performs real time bandwidth measurement according to user's available bandwidth and fetches the corresponding bandwidth sensitive track content from the server via HTTP requests. (*Id.*, 7:43-53, 8:59-9:5, 9:45-51, 10:15-24, 10:35-58). In another example, International PCT Publication WO 1997044942 ("Kliger")⁵ teaches a media player device that requests from a server the appropriate bandwidth object depending on network bandwidth. (Kliger, 3:25-32, 5:25-28, 9:32-10:4, 12:33-13:8, Claim 3).

⁴ A copy of Chang is enclosed as Exhibit 7.

⁵ A copy of Kliger is enclosed as Exhibit 8.

2. Leaning

International PCT Publication WO 2002049343 (“Leaning”)⁶ was filed on December 14, 2001 and published on June 20, 2002. Leaning is prior art under at least (pre-AIA) 35 U.S.C. § 102(b). Leaning is not cited on the face of the ’555 Patent nor was it considered by the Administrative Law Judge (“ALJ”) in ITC Investigation No. 337-TA-1265 (the “ITC Investigation”), in which the ’555 Patent was asserted.

Leaning discloses delivery of video over the Internet from a server to a client terminal by dividing the video into a sequence of “sub-files each of which is independently requested by the terminal, which thereby has control of the rate of delivery” and “switching between alternative sub-file sets representing alternative delivery modes of data rates.” (Leaning, Abstract). Leaning further explains that a “server stores two or more versions of the recording, recorded at different compression rates” and a client terminal’s “player program is able to switch automatically between them” by using an “index file” that provides a list of the data rates available and each set of sub-files for each different rate. (*Id.*, 6:5-7:5). The client in Leaning makes repeated assessments relating to network characteristics and determines to request a next sub-file of a higher (or lower) rate based on these assessments. (*Id.*, 8:1-9:8).

Leaning is analogous art to the claimed invention in the ’555 Patent and in the same field of endeavor of adaptive-rate streaming based on network conditions. (*Compare* ’555 Patent, title, Abstract, 1:25-34, 2:58-60, 3:5-4:8, FIGs. 2c, 4, and 7, *with* Leaning, Abstract, 6:5-7:5, 8:1-9:8, FIGs. 1-5; Houh Decl., ¶ 49). Leaning is reasonably pertinent to any purported problem addressed in the ’555 Patent, such as “alleviat[ing] the problems of reliability, efficiency, and

⁶ A copy of Leaning is enclosed as Exhibit 3.

latency” and “offer[ing] instantaneous viewing” using “multiple connections between a source and a destination, requesting varying bitrate streams depending upon network conditions.” (’555 Patent, 1:30-2:67; Houh Decl., ¶ 49).

DISH Has Recognized that Leaning Is a Strong Reference

In addition to the U.S. litigations and USPTO proceedings in Tables 1-5, Leaning has been raised as a prior art reference in the following foreign litigations involving DISH’s related European patents that have similar claims as the ’555 Patent: *DISH Techs., L.L.C., et al. v. Aylo Premium Ltd., et al.*, Claim No. HP-2023-000043, UK High Court (Chancery); *DISH Techs., L.L.C., et al. v. Aylo Premium Ltd., et al.*, UPC_CFI_471/2023, Unified Patent Court, Mannheim Local Chamber; *DISH Techs., L.L.C., et al. v. Aylo Premium Ltd., et al.*, 21 O 15905/23, Munich Regional Court. Before the UK High Court, DISH admitted that it will “likely” need to amend its European patent claims to survive Leaning as a primary obviousness reference. *Aylo Freesites Ltd v. DISH Technologies L.L.C.*, IPR2024-00515, Ex. 1016, 58:19-59:15 (DISH’s counsel: “if we seek to amend, which would seem to be likely”), 62:4-25 (“[W]e may well amend the patent, we are contemplating it”), 65:2-7 (“There is a likelihood we may amend . . . it is something that it is a real possibility”), 65:12-14 (“MR. JUSTICE MEADE: For all I know, Mr. Moody-Stuart, you have reached the conclusion that you have to amend over Leaning”).

DISH also has shied away from addressing the substance of Leaning in numerous USPTO proceedings, only doing so as a last resort. In the IPRs asserting Leaning, prior to institution, DISH argued only for discretionary denial of the petitions—even where there was no earlier petition for the same patent, or where the petitioner was unrelated to Requester. (*See* Patent Owner’s Preliminary Response in each of IPR2024-00512 to -00519, -00917 to -00919, and -00940). And tellingly, in Patent Application No. 17/001,647, DISH let the case go

abandoned after receiving a nonfinal office action (dated February 15, 2024). The Examiner articulated a new ground of rejection, based in part on IPR reference Ogdon. Notably, DISH had disclosed Leaning in this application less than two weeks (on February 2, 2024) before the office action. Calculating that the Examiner was engaged and willing to address new art, DISH opted to let the application die rather than risk a follow-up rejection based on Leaning.

***A Different Leaning Publication on the Face of the '555 Patent Was Not
Meaningfully Considered by the Examiner***

As noted above, Leaning was not cited or considered during prosecution of the '555 Patent. A different United States Pre-Grant Publication (US 2004/0030547) to Leaning, titled "Encoding Audio Signals" and having its abstract and claims drawn to encoding of audio signals, was cited in connection with the '555 Patent. (*See* '555 Patent, 3). Leaning and US 2004/0030547 are not in the same patent family. During prosecution of the '555 Patent, US 2004/0030547 was not cited in any IDS. In related patent applications, it was cited concurrently with hundreds of other references, and Applicant did not discuss or point out any relevant portion of US 2004/0030547 at that or any time during the pendency of the '555 Patent. The Examiner did not analyze US 2004/0030547 or apply it in any grounds of rejection. Additionally, while the PTAB denied institution of the Leaning IPR, the PTAB's denial was purely discretionary, and it did not address the merits of the petition.

3. Allen

International PCT Publication WO 2002/075482 A2 to Allen ("Allen")⁷ was filed on March 15, 2002 and published on September 26, 2002. Allen is prior art under at least (pre-AIA) 35 U.S.C. § 102(b). Allen is not cited on the face of the '555 Patent. United States Publication

⁷ A copy of Allen is enclosed as Exhibit 4.

No. 2004/0117427 (which claims priority to Allen) is cited on the face of the '555 Patent, but neither were used in any prior art rejections. Allen was also not considered by the ALJ in the ITC Investigation.

Allen discloses streaming media to multiple users and tailoring the delivery stream to the capabilities of the user's system. (Allen, 1:15-21). Allen explains that multi-bitrate streaming was well-known, including encoding copies of a video at multiple quality levels with different bitrates, such as low quality (56 kbps), medium quality (300 kbps) and high quality (600 kbps). (*Id.*, 12:1-5).

Allen is analogous art to the claimed invention in the '555 Patent and in the same field of endeavor of adaptive-rate streaming based on network conditions. (*Compare* '555 Patent, title, Abstract, 1:25-34, 2:58-60, 3:5-4:8, FIGs. 2c, 4, and 7, *with* Allen, Abstract, 1:10-12:22; Houh Decl., ¶ 52). Allen is reasonably pertinent to any purported problem addressed in the '555 Patent, such as "alleviat[ing] the problems of reliability, efficiency, and latency" and "offer[ing] instantaneous viewing" using "multiple connections between a source and a destination, requesting varying bitrate streams depending upon network conditions." ('555 Patent, 1:30-2:67; Houh Decl., ¶ 52). In the Ogdon IPR, the PTAB rejected DISH's arguments that Allen teaches away from the alleged invention of the '555 Patent, determining that Allen teaches such claimed subject matter as "formatting a video at three different bitrates" and "the encoding at edge servers of video into various 'formats and bit rates matched to . . . each viewer.'" *Aylo Freesites Ltd v. DISH Technologies L.L.C.*, IPR2024-00146, Paper 57 at 27-28 (PTAB Apr. 17, 2025).

4. Brown

U.S Patent No. 7,412,516 to Brown et al. (“Brown”)⁸ was filed on December 29, 2003 and issued on August 12, 2008. Brown is prior art under at least (pre-AIA) 35 U.S.C. § 102(e). Brown is not cited on the face of the ’555 Patent, nor was it considered by the ALJ in the ITC Investigation.

Brown discloses a client accessing a networked content source using a network bandwidth configuration setting and determining whether to adjust that setting based on comparison to client access metrics, such as by identifying a preferred bit rate may be identified, measuring the bandwidth used in accessing the content and comparing to the configuration setting, and adjusting after determining whether network interruptions in accessing the content source were experienced and would persist. (Brown, 1:19-2:2). Brown discloses that the content source may be, *e.g.*, a streaming video server. (*Id.*, 2:58-61). Brown explains that multi-bitrate streaming was well-known, including encoding copies of a video at multiple quality levels with different bitrates, such as low quality (100 kbps), medium quality (300 kbps) and high quality (600 kbps), and transitioning to a lower or higher bit rate stream that can be supported. (*Id.*, 10:67-11:56; *see also id.*, 7:5-10 (disclosing five quality levels: 50 kbps, 100 kbps, 300 kbps, 600 kbps, and 1.5 Mbps⁹)).

⁸ A copy of Brown is enclosed as Exhibit 5.

⁹ While the text of Brown states 1.5 “mbps” with a lowercase metric/SI prefix “m,” a POSITA would have understood this to refer to 1.5 megabits per second, or Mbps (not millibits per second), given the context in which the multiple bit rates are listed in ascending order, with “the

Brown is analogous art to the claimed invention in the '555 Patent and in the same field of endeavor of adaptive-rate streaming based on network conditions. (*Compare* '555 Patent, title, Abstract, 1:25-34, 2:58-60, 3:5-4:8, FIGs. 2c, 4, and 7, *with* Brown, Abstract, 1:19-2:2, 2:58-61, 7:5-10, 10:67-11:56; Houh Decl., ¶ 55). Brown is reasonably pertinent to any purported problem addressed in the '555 Patent, such as “alleviat[ing] the problems of reliability, efficiency, and latency” and “offer[ing] instantaneous viewing” using “multiple connections between a source and a destination, requesting varying bitrate streams depending upon network conditions.” ('555 Patent, 1:30-2:67; Houh Decl., ¶ 55).

5. Reme

International PCT Publication WO 2004/030310 to Reme (“Reme”)¹⁰ was filed on September 15, 2003 and published on April 8, 2004. Reme is prior art under at least (pre-AIA) 35 U.S.C. § 102(b). Reme is not cited on the face of the '555 Patent, nor was it considered by the ALJ in the ITC Investigation.

Reme discloses streaming content to a user terminal over a network, such as streaming video content over the internet. (Reme, 1:2-4, 2:23-27, 3:5-10). Reme explains that multi-bitrate streaming was well-known, including encoding a plurality of pre-encoded versions of video content at multiple quality levels with different encoding rates (*i.e.*, bitrates), such as low quality (30 kbps), medium quality (300 kbps) and high quality (5 Mbps), and switching among them based on available bandwidth. (*Id.*, 3:11-17, 5:1-12).

highest quality bandwidth” being “1.5 mpbs” (sic, 1.5 Mbps). (Brown, 7:5-10; Houh Decl., ¶ 54 n.2).

¹⁰ A copy of Reme is enclosed as Exhibit 6.

Reme is analogous art to the claimed invention in the '555 Patent and in the same field of endeavor of adaptive-rate streaming based on network conditions. (*Compare* '555 Patent, title, Abstract, 1:25-34, 2:58-60, 3:5-4:8, FIGs. 2c, 4, and 7, *with* Reme, Abstract, 1:2-4, 2:23-27, 3:5-17, 5:1-12; Houh Decl., ¶ 58). Reme is reasonably pertinent to any purported problem addressed in the '555 Patent, such as “alleviat[ing] the problems of reliability, efficiency, and latency” and “offer[ing] instantaneous viewing” using “multiple connections between a source and a destination, requesting varying bitrate streams depending upon network conditions.” ('555 Patent, 1:30-2:67; Houh Decl., ¶ 58).

B. The Grounds for the SNQPs

1. Asserted Combinations of Patents and Printed Publications

SNQP-1: Requester respectfully submits that a substantial new question of patentability exists under 35 U.S.C. § 103(a) with respect to Claims 2, 6, 12, and 21 of the '555 Patent based on Leaning and Allen.

SNQP-2: Requester respectfully submits that a substantial new question of patentability exists under 35 U.S.C. § 103(a) with respect to Claims 2, 12, and 21 of the '555 Patent based on Leaning and Brown.

SNQP-3: Requester respectfully submits that a substantial new question of patentability exists under 35 U.S.C. § 103(a) with respect to Claim 6 of the '555 Patent based on Leaning, Brown, and Allen.

SNQP-4: Requester respectfully submits that a substantial new question of patentability exists under 35 U.S.C. § 103(a) with respect to Claims 2, 12, and 21 of the '555 Patent based on Leaning and Reme.

SNQP-5: Requester respectfully submits that a substantial new question of patentability exists under 35 U.S.C. § 103(a) with respect to Claim 6 of the '555 Patent based on Leaning, Reme, and Allen.

2. This Request Raises Substantial and New Questions

“A prior art patent or printed publication raises a substantial question of patentability where there is a substantial likelihood that a reasonable examiner would consider the prior art patent or printed publication important in deciding whether or not the claim is patentable.” MPEP § 2242(I).

“If the prior art patents and printed publications raise a substantial question of patentability of at least one claim of the patent, then a substantial new question of patentability as to the claim is present, unless the same question of patentability has already been: (A) decided in a final holding of invalidity by a federal court in a decision on the merits involving the claim, after all appeals; (B) decided in an earlier concluded examination or review of the patent by the Office; or (C) raised to or by the Office in a pending reexamination or supplemental examination of the patent.” *Id.* “The existence of a substantial new question of patentability is not precluded by the fact that a patent or printed publication was previously cited by or to the Office or considered by the Office.” 35 U.S.C. § 303(a). “[T]he existence of a final court decision that a claim has not been proven *invalid* in view of the same or different prior art does not necessarily mean that no new question is present, because of the different standards of proof employed by the federal district courts and the Office.” MPEP § 2242(III) (citing *In re Swanson*, 540 F.3d 1368, 1378 (Fed. Cir. 2008); *In re Baxter Int’l Inc.*, 678 F.3d 1357 (Fed. Cir. 2012)).

“Determinations on whether a substantial new question of patentability exists in such an instance shall be based upon a fact-specific inquiry done on a case-by-case basis. For example, a

substantial new question of patentability may be based solely on old art where the old art is being presented/viewed in a new light, or in a different way, as compared with its use in the earlier examination(s), in view of a material new argument or interpretation presented in the request.”

MPEP § 2242(II).

Requester submits that the foregoing combinations of references present substantial and new questions of patentability.

- There is an uncanny resemblance between Leaning’s disclosure and the subject matter of the Reexam Claims. As explained in Sections IV.A and VI.A.2, Leaning was never cited during prosecution of the ’555 Patent. Non-family publication US 2004/0030547, with its title, abstract, and claims drawn to encoding audio signals, was buried among hundreds of other references and never summarized, discussed, analyzed, or applied to any pending claims. Notably, the PTAB did not address the merits of Leaning (or US 2004/0030547) in Requester’s denied Leaning IPR, but DISH is seriously concerned about Leaning, as it should be, when admitting that it likely would need to amend its European patent claims in view of Leaning as a primary obviousness reference, and resisting addressing the merits of Leaning in other USPTO proceedings until after institution.
- In Reexamination Nos. 90/019,670, 90/019,671, and 90/019,672, the Examiners determined that combinations of prior art references including Leaning presented substantial new grounds of unpatentability as to claims of patents related to, and reciting similar subject matter as, the ’555 Patent.
- The Examiner and the PTAB have not substantively considered the combination of Leaning and Allen. However, in the Ogdon IPR, the PTAB considered the

combination of Ogdon and Allen and determined that Allen teaches certain subject matter of claims from which the Reexam Claims depend, including “formatting a video at three different bitrates” and “the encoding at edge servers of video into various ‘formats and bit rates matched to . . . each viewer.’” *Aylo Freesites Ltd v. DISH Technologies L.L.C.*, IPR2024-00146, Paper 57 at 27-28 (PTAB Apr. 17, 2025). Requester submits that Allen, as combined with Leaning according to the SNQPs below, teaches the subject matter of the Reexam Claims.

- The Examiner and the PTAB have not considered the combinations of Leaning and Brown or Leaning and Reme in connection with the ’555 Patent.

Requester accordingly submits that it has (i) shown a substantial likelihood that a reasonable examiner would consider these references important in deciding whether or not the Reexam Claims are patentable and (ii) presented these references in a new light and in a different way as compared with their use—or lack thereof—in the original examination and other proceedings.

VII. CLAIM CONSTRUCTION

A. Legal Standard

In an *ex parte* reexamination proceeding involving claims of an expired patent, claim construction pursuant to the principles set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) should be applied because the expired claims are not subject to amendment. MPEP § 2258(I)(G). A *Phillips* claim construction means words are “generally given their ordinary and customary meaning . . . the term would have to a person of ordinary skill in the art in question at the time of the invention” *Phillips*, 415 F.3d at 1312-13 (citations and quotations omitted). Such plain and ordinary meaning construction is based on the intrinsic

record (patent and prosecution history). *Id.*; *Eon Corp. IP Holdings LLC v. Silver Spring Networks, Inc.*, 815 F.3d 1314, 1320 (Fed. Cir. 2016) (“The ordinary meaning of a claim term is not the meaning of the term in the abstract. Instead, the ordinary meaning of a claim term is its meaning to the ordinary artisan after reading the entire patent.”) (citations and quotations omitted). Dictionaries and other extrinsic evidence are relevant but “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips*, 415 F.3d at 1317 (quotations and citations omitted).

B. Proposed Claim Constructions

Requester submits that no explicit construction is necessary for any claim term. However, Requester acknowledges that in the ITC Investigation asserting the ’555 Patent and family members thereof, the ALJ construed “streamlet” as “any sized portion of the content file.” (Ex. 9 (337-TA-1265 ID), 38-43). The ALJ also construed “low quality stream,” “medium quality stream,” and “high quality stream” under their plain and ordinary meaning. (*Id.*, 46-53). The ALJ also found that “end user station” and “content player device” required no construction. (*Id.*, 71).

The USPTO is not bound by the ITC’s constructions. *See* MPEP § 2286(II) (citing *In re Trans Texas Holdings Corp.*, 498 F.3d 1290 (Fed. Cir. 2007) and noting that the USPTO was not bound by a district court claim construction because the USPTO was not a party to that proceeding¹¹ and applies different standards and burdens of proof). Indeed, for the claims that were challenged in the Ogdon IPR, the PTAB did not explicitly construe any claim terms. *Aylo Freesites Ltd v. DISH Technologies L.L.C.*, IPR2024-00146, Paper 57 at 12 (PTAB Apr. 17, 2025). Nevertheless, as shown herein, the asserted SNQPs render the Reexam Claims

¹¹ Requester was not a party to the ITC Investigation either.

unpatentable even under the ITC's constructions. By asserting that the '555 Patent claims are unpatentable under the ITC's constructions, Requester is not conceding that those constructions are correct and reserves its rights to challenge those constructions in any proceeding.

In addition, Petitioner notes that in the ITC Investigation, iFIT proposed a design-around that included performing an initial, adaptive stream selection based on bandwidth. (337-TA-1265 Enf. Compl., 32).¹² According to iFIT, modifying its products in this manner would not infringe because the claims "require repeated and continuous shifting between bitrates during streaming based on ongoing network conditions." (*Id.*). In response, DISH argued that iFIT's Redesigned Products would still infringe because "[t]his initial adaptive selection by itself plainly meets" limitation 16[h] of the '554 Patent and limitation 10[h] of the '555 Patent. (*Id.*). Thus, though Requester does not necessarily agree with DISH, DISH should be held to its position is that a single determination and quality level selection, even without subsequent "shifting," meets these limitations.

VIII. DETAILED EXPLANATION OF THE PERTINENCE AND MANNER OF APPLYING THE PRIOR ART

A claim is obvious when "the differences between the subject matter sought to be patented 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). This obviousness analysis involves "the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill

¹² A copy of this Enforcement Complaint is enclosed as Exhibit 10.

in the pertinent art resolved.” *Id.* (quoting *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966)). A claimed combination is obvious if there was an apparent reason for a skilled artisan “to combine the known elements in the fashion claimed by the patent at issue.” *Id.* at 418.

There are numerous reasons that a POSITA would combine known elements or modify existing prior art.

[T]he Court [in *KSR*] explained that a rationale to combine could arise from interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art. For example, the Court stated that if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. For the technique’s use to be obvious, the skilled artisan need only be able to recognize, based on her background knowledge, its potential to improve the device and be able to apply the technique.

Unwired Planet, 841 F.3d at 1003 (citations and quotations omitted). As advanced below, the Reexam Claims are obvious over the prior art, especially in view of the Federal Circuit’s broad reasons to combine references under *KSR*.

A. SNQP-1: Obviousness over Leaning and Allen

Claims 2, 6, 12, and 21 are rendered obvious by Leaning in combination with Allen.

1. Claim 1

Claims 2 and 6, and not Claim 1, are Reexam Claims herein. However, because Reexam Claims 2 and 6 depend from independent Claim 1 and therefore include all limitations of Claim 1, this Request explains how Leaning in combination with Allen teaches all limitations of Claim 1.

Claim 1 recites:

[1.pre] 1. A system for adaptive-rate content streaming of live event video playable on one or more end user stations over the Internet, the system comprising:

Whether or not the preamble is limiting, Leaning teaches limitation 1.pre. Leaning discloses a system for adaptive-rate content streaming of a live event video that is playable on one or more end user stations and/or content player devices (terminals) over the Internet.

Delivery of recorded audio or **video** material over a telecommunications link (2) **from a server (1) to a terminal**¹³ (3) Provision may be made for **switching** between alternative sub-file sets representing alternative delivery modes of data rates.

(Leaning, Abstract).

The present invention is concerned with the delivery, over a telecommunications link, of digitally coded material for presentation to a user.

* * *

According to one aspect of the invention there is provided a terminal for playing audio or **video** material which is stored on a remote server as a set of files representing successive temporal portions of the said material , the terminal comprising: a telecommunications interface for communication with the server; a buffer for receiving the files from the telecommunications interface; means for playing the contents of the buffer; and control means responsive to the state of the buffer to generate request messages for further files for replenishment of the buffer. In another aspect, the invention provides a method of transmitting digitally coded audio or **video** material comprising: partitioning the material into a plurality of discrete files each representing successive temporal portions of the said material; storing the files at a first station; and at a second station -

- a) transmitting to the first station requests for successive respective ones of the files;
- b) receiving the files; and
- c) decoding the files for replay of the material.

¹³ Unless otherwise indicated, all emphases in quotations are added.

(*Id.*, 1:3-29).

In this example, the **network is the internet** or other packet network operating in accordance with the Hypertext Transfer Protocol (see RFCs 1945/2068 for details)

(*Id.*, 2:9-10).

[T]he **server stores two or more versions of the recording**, recorded at different compression rates (for example . . . 8, 16, 24 and 32 kbit/s respectively) and **the player program is able to switch automatically between them.**

(*Id.*, 6:13-15).

“Mode” indicates “recorded” (as here) or “**live**” (to be discussed below).

(*Id.*, 8:4-5).

The same principle may be applied to the delivery of video recordings, or of course, video recordings with an accompanying sound track. In the simpler version, where there is only one recording, the system differs from the audio version only in that the file is a video file (e.g. in H.261 or MPEG format) and the player program incorporates a video decoder. The manner of partitioning the file into sub-files is unchanged.

(*Id.*, 16:6-10).

The files to be delivered have been referred to as “recordings”. However, it is not necessary that the entire audio or video sequence should have been encoded – or even exist – before delivery is commenced. **Thus a computer could be provided to receive a live feed, to code it using the chosen coding scheme, and generate the sub-files “on the fly” and upload them to the server, so that, once a few sub-files are present on the server, delivery may commence.**

(*Id.*, 19:6-21).

A terminal for playing audio or video material which is stored on a remote server as a set of files representing successive temporal portions of the said material

(*Id.*, Claim 1).

. . . [A] server storing a plurality of sets of files, which sets correspond to respective different delivery modes, the **terminal** including:
means operable to **effect mode switching** by providing that **subsequent request messages shall request files from a set different from the set to which the immediately preceding request related.**

(*Id.*, Claim 4).

. . . [S]aid **sets of files correspond to respective different data rates**, in which:
the terminal includes means for monitoring the received data rate;
the mode switching means is operable, in the event that the measured rate is below that needed for the set to which the currently requested file belongs, to provide that subsequent said request messages shall request files from a set corresponding to a **lower data rate.**

(*Id.*, Claim 5).

. . . [I]n the event that the measured rate is sufficient to support delivery of files of a higher data rate than that of the set to which the currently requested file belongs, to provide that subsequent said request messages shall request files from a set corresponding to a **higher data rate.**

(*Id.*, Claim 6).

(*See also id.*, Claims 11 and 12, FIG. 1; Houh Decl., ¶¶ 66-67).

[1.a] at least one storage device storing live event video,

Leaning teaches limitation 1.a. *See* limitation 1.pre. Leaning discloses at least one server with at least one storage device (e.g., hard disk or cache) storing the live event video.

[T]he server stores two or more versions of the recording,
recorded at different compression rates (for example at compressions corresponding to (continuous) data rates of 8, 16, 24 and 32 kbit/s respectively) and the player program is able to switch automatically between them. . . .

* * *

In order to provide for rate switching, the person preparing the file for loading onto the server prepares several source files - by encoding the same PCM file several times at different rates. He then partitions each source file into sub-files, as before. These can be **loaded onto the server in separate directories** corresponding to the different rate, as in the following example structure, where “008k”, “024k” in the directory name indicates a rate of 8 kbit/s or 24 kbit/s and so on.

(Leaning, 6:13-26).

The files to be delivered have been referred to as “recordings”. However, it is **not necessary that the entire audio or video sequence should have been encoded – or even exist – before delivery is commenced**. Thus a computer could be provided to receive a **live feed**, to code it using the chosen coding scheme, and **generate the sub-files “on the fly” and upload them to the server**, so that, once a few sub-files are present on the server, delivery may commence.

* * *

The same system can be used for a **live audio (or video) feed**. It is in a sense still ‘recorded’ - the difference being primarily that delivery and replay commence before recording has finished, although naturally there is an inherent delay in that one must wait until at least one sub-file has been recorded and loaded onto the server 1.

(*Id.*, 19:6-21).

(*See also id.*, 20:1-41; Houh Decl., ¶¶ 68-69).

[1.b] the live event video encoded at a plurality of different bitrates creating a plurality of streams including a low quality stream, a medium quality stream, and a high quality stream,

Leaning teaches limitation 1.b. *See* limitation 1.pre. Leaning discloses that the live event video is digitally encoded at a plurality of different bitrates (different compression rates) creating a plurality of streams including a low quality stream (*e.g.*, 8 or 16 kbps), a medium quality stream (*e.g.*, 24 kbps), and a high quality stream (*e.g.*, 32 kbps).

[T]he server stores two or more versions of the recording, recorded at **different compression rates** (for example at compressions corresponding to (continuous) data rates of **8, 16, 24 and 32 kbit/s respectively**) and the player program is able to switch automatically between them. . . .

* * *

In order to provide for rate switching, the person preparing the file for loading onto the server prepares several source files - by encoding the same PCM file several times at different rates. He then partitions each source file into sub-files, as before. These can be loaded onto the server in separate directories corresponding to the different rate, as in the following example structure, where “008k”, “024k” in the directory name indicates a rate of 8 kbit/s or 24 kbit/s and so on.

(Leaning, 6:13-26).

The same principle may be applied to the delivery of video recordings, or of course, video recordings with an accompanying sound track. In the simpler version, where there is only one recording, the system differs from the audio version only in that the file is a video file (e.g. in H.261 or MPEG format) and the player program incorporates a video decoder. The manner of partitioning the file into sub-files is unchanged.

As in the audio case, there may be **two or more recordings corresponding to different data rates, selected by the control mechanism already described.**

(*Id.*, 16:6-12).

(*See also id.*, Claim 4; Houh Decl., ¶¶ 70-71).

<p><i>[1.c] the low quality stream, the medium quality stream, and the high quality stream each comprising a group of streamlets encoded at a respective one of the plurality of different bitrates;</i></p>

Leaning teaches limitation 1.c. *See* limitation 1.pre. Leaning discloses that the low quality stream, the medium quality stream, and the high quality stream each comprise a group of streamlets (subfiles) encoded at a respective one of the plurality of different bitrates, wherein

each group of streamlets comprises at least first (e.g., 000000.bin) and second (e.g. 000001.bin) streamlets corresponding to a portion of the live event video.

[D]ividing the material into a **sequence of sub-files** each of which is independently requested by the terminal . . . [S]witching between **alternative sub-file sets** representing **alternative delivery modes of data rates**.

(Leaning, Abstract).

The present invention is concerned with the delivery, over a telecommunications link, of digitally coded material for presentation to a user.

* * *

According to one aspect of the invention there is provided a terminal for playing audio or video material which is stored on a remote server as a **set of files representing successive temporal portions** of the said material . . . In another aspect, the invention provides a method of transmitting digitally coded audio or video material comprising:

partitioning the material into a plurality of discrete files each representing successive temporal portions of the said material; storing the files at a first station; and at a second station -

- a) transmitting to the first station requests for successive respective ones of the files;
- b) receiving the files; and
- c) decoding the files for replay of the material.

(*Id.*, 1:3-29).

The manner in which the data files are stored on the server 1 will now be explained. . . [T]he file **is divided into smaller files** before being stored on the server 1. We prefer that each of these smaller files is of a size corresponding to a fixed playing time, perhaps four seconds. . . Thus the Bach file of 9 minutes duration would be divided into **135 smaller files** each representing four seconds' playing time. In this example these are given file names which include a serial number indicative of their sequence in the original file, for example:

000000.bin
000001.bin
000002.bin

000003.bin

.

000134.bin

... (The expression ‘sub-files’ is used here to distinguish them from the original file containing the whole recording: it should however be emphasized that, as far as the server is concerned, each ‘sub-file’ is just a file like any other file).

(*Id.*, 3:1-22).

(*See also id.*, 5:4-6:8, 6:21-7:7 (describing the same set of 135 sub-files (000000.bin, 000001.bin, 000002.bin, . . . 000134.bin) each encoded at a different bitrate including low, medium, and high quality (8k, 16k, 18k, 24k, and 32k) and listed in an index file and saved in the directory appropriate for their bitrates), 12:8-34, 13:23-14:19, Claims 1 and 11, FIG. 4; Houh Decl., ¶¶ 72-73).

Directory	Subdirectory	Filename
mp3_bwv565	none	link.htm index.htm
mp3_bwv565	008k_11_m	000000.bin 000001.bin 000002.bin 000003.bin . . 000134.bin
mp3_bwv565	016k_11_m	000000.bin 000001.bin 000002.bin 000003.bin . . 000134.bin
mp3_bwv565	018k_11_s	000000.bin 000001.bin 000002.bin 000003.bin . . 000134.bin
mp3_bwv565	024k_11_s	000000.bin 000001.bin 000002.bin 000003.bin . . 000134.bin
mp3_bwv565	032k_11_s	000000.bin 000001.bin 000002.bin 000003.bin . . 000134.bin

(Leaning, 7 (annotated, showing each of the directories containing the different versions of the same recording (encoded at 8, 16, 24, and 32 kbit/s) and each containing the same set of subfiles (000000.bin-000134.bin) in the same order).

Leaning's disclosures of generating sub-files for a live feed, as well as for utilizing the MP3 standard for encoding sub-files, suggest that the feed first is segmented, then encoded into sets of sub-files at different bit rates, as opposed to generating and maintaining multiple feeds at different bit rates, then segmenting those. (*See* Leaning, 19:6-21 (explaining that a live feed is received and coded using a chosen scheme, then the sub-files are generated and uploaded to the server, with playback able to commence as soon as "at least one sub-file has been recorded and loaded onto the server 1"), 14:22-24 ("However, since naturally the standard does not allow such carry-over at the end or beginning of a recording, this problem is easily solved by encoding each sub-file separately, as if it were a single recording."); Houh Decl., ¶ 74). Nevertheless, a POSITA would recognize that there would be a small, finite number of ordering options—first segmenting, then encoding; or first encoding, then segmenting—and would have a reasonable expectation of success with either option, as they both were straightforward techniques for generating multiple sets of streamlets at different bit rates. (Houh Decl., ¶ 74).

To the extent DISH argues that Leaning's disclosure of bridging sub-files (Leaning, 17-19) results in different copies of the video being encoded at the same bit rate, such an argument is erroneous and irrelevant, as Leaning's disclosure of bridging subfiles is an optional feature related primarily to a transition from fast forwarding to normal-speed playback. (*Id.*, 16:32-17:6). Leaning explains that in a transition from independently coded frames (intra-frames or I-frames) in fast forward play to predictively coded frames (P-frames) in normal-speed playback that lack a preceding reference frame, an intermediate sequence of frames can be encoded to bridge the gap,

providing an example in the context of video encoded using the H.261 standard. (*Id.*, 16:32-17:15). Leaning discloses that the bridging process “could be used for rate-switching,” in the same H.261 context. (*Id.*, 18:18-19:5). However, Leaning also discloses that video can be encoded entirely as independently coded frames (intra-frames or I-frames) or with MPEG standards generating a mixture of I-frames and predictively coded frames (P-frames), in which “each sub-file should preferably begin with an intra-frame.” (*Id.*, 16:17-23). Video with sub-files consisting entirely of I-frames as taught by Leaning would not require bridging subfiles, nor would video with sub-files starting with I-frames when switching between quality levels. Thus, any focus by DISH on Leaning’s optional disclosure of bridging sub-files would be entirely misplaced. As explained above, Leaning teaches that different copies of the video are encoded at the different bit rates. (Houh Decl., ¶ 75).

[1.d] wherein at least one of the low quality stream, the medium quality stream, and the high quality stream is encoded at a bitrate of no less than 600 kbps;

Leaning in combination with Allen teaches limitation 1.d. As explained above, Leaning teaches two or more streams encoded at different bitrates including one example with four streams encoded at 8, 16, 24, and 32 kbit/s, respectively. *See* limitations 1.pre-1.c. Further, Leaning’s example bitrates of 8, 16, 24, and 32 kbit/s, respectively, are for audio encodings—which a POSITA would have understood generally require less data to stream than video encodings and thus typically have lower bitrates. (Houh Decl., ¶ 76). Leaning also teaches that the same principles may be applied to video encodings, and a POSITA would have understood that a user streaming video encodings at the time of the Priority Date would generally prefer higher bitrate encoding if supported by the user’s network requirements, such as 600 kbps, to enjoy high quality viewing. (Leaning, 16:6-10, 18:18-27 (describing a video “mpg” with each set of subfiles encoded at 96k and at 128k); Houh Decl., ¶ 76).

To the extent it is argued or found that Leaning does not explicitly teach a stream encoded at a bitrate of no less than 600 kbps, Allen teaches this limitation. Allen teaches that it was known to encode video content into at least three different quality levels (or bitrates) for streaming, for example at 56 kbps, at 300 kbps, and at 600 kbps, in order to allow streaming to various clients with different network requirements. (Allen, 12:1-5). A POSITA would have been motivated to encode a video embodiment of Leaning (including the corresponding sets of subfiles) into each of a low quality, medium quality, and high quality level bitrate stream (low at 56 kbps, medium at 300 kbps, and high at 600 kbps), as taught by Allen, because it would enable client terminals with a wide variety of network bandwidth requirements to stream the video and would have allowed for those with user terminals with high bandwidth connections to stream at 600 kbps and enjoy higher resolution viewing. (Houh Decl., ¶ 77). A POSITA would have had a reasonable expectation of success with such a combination because both Leaning and Allen are drawn to similar systems of client-server based streaming of video encoded into multiple different bitrate copies and because simply encoding one of the video streams at a particular bitrate, such as the 600 kbps taught by Allen, would have been a simple and straightforward modification for a POSITA. (*Id.*).

In the Ogdon IPR, the PTAB determined that Allen teaches “formatting a video at three different bitrates,” contrary to an argument by DISH that Allen teaches away. As the PTAB held, discussing a combination of Allen with Ogdon:

The fact that this teaching appears in a background section does not detract from Allen’s usefulness in the proposed combination because we must consider Allen “for everything it *teaches* by way of technology,” which is “not limited to the particular *invention* it is describing and attempting to protect.” *EWP Corp. v. Reliance Universal Inc.*, 755 F.2d 898, 907 (Fed. Cir. 1985). And, even if we were to look to Allen’s particular invention, Petitioner establishes that Allen teaches the encoding at edge servers of video

into various “formats and bit rates matched to . . . each viewer.” [Allen], 24:19–25:23. Thus, Allen also supports Petitioner’s proposed combination. We find that neither Ogdon nor Allen teaches away from the proposed combination.

Aylo Freesites Ltd v. DISH Technologies L.L.C., IPR2024-00146, Paper 57 at 27-28 (PTAB Apr. 17, 2025). The PTAB’s findings as to Allen apply whether combined with Ogdon or with Leaning, and neither Leaning nor Allen teaches away from the combination of Leaning and Allen and the teaching of limitation 1.d. (Houh Decl., ¶ 78).

[1.e] wherein the amount of data in each streamlet corresponding to the same part of the live event video in the low quality stream, the medium quality stream, and the high quality stream varies according to the different bitrates; and the plurality of streamlets in the low quality stream, the medium quality stream, and the high quality stream having a duration that is the same as each other.

Leaning teaches limitation 1.e. *See* limitation 1.pre. Leaning discloses that the streamlets (subfiles) across the plurality of streamlets in the low quality stream, the medium quality stream, and the high quality stream correspond to the same part of the live video event (*e.g.*, 000000.bin is the same portion of the live video event in each bitrate directory; 000001.bin is the same portion of the live video event in each bitrate directory; etc.) because each version has the same number of segments in the same order and having durations that are equal to each other (4 seconds).

Originally this would have been created as a single data file, and on a conventional streamer would be stored as this one single file. Here, however, the file is divided into smaller files before being stored on the server 1. **We prefer that each of these smaller files is of a size corresponding to a fixed playing time, perhaps four seconds.** With a compressed format such as MP3 this may mean that the files will be of different sizes in terms of the number of bits they actually contain. Thus the Bach file of 9 minutes duration would be **divided into 135 smaller files each representing four seconds’ playing time.**

(Leaning, 3:4-18).

Note that because the length of a sub-file corresponds, as explained earlier, to a **fixed length of time**, the **number of sub-files is the same for each directory**.

(*Id.*, 7:1-2).

[T]here is no expectation that a sub-file will be followed by a sub-file other than that which immediately follows it in the original sequence [T]he sub-file size can be a fixed number of bits, or a fixed playing time length (or neither of these) In the case of rate switching, it is, if not actually essential, **highly desirable that the sub-file boundaries are the same for each rate**, so that the **first sub-file received for a new rate continues from the same point in the recording that the last sub-file at the old rate ended**. To arrange that every sub-file should represent the same fixed time period (e.g. the **4 seconds** mentioned above) is not the only way of achieving this, but it is certainly the most convenient.

(*Id.*, 12:8-20).

(*See also id.*, Abstract, 1:3-29, 5:4-6:8, 6:21-7:1 (describing the same set of 135 sub-files (000000.bin, 000001.bin, 000002.bin, . . . 000134.bin) each encoded at a different bitrate (8k, 16k, 18k, 24k, and 32k) and listed in an index file and saved in the directory appropriate for their bitrates); Houh Decl., ¶¶ 79-80).

Further, a POSITA would have understood subfiles encoded at different bitrates (compressions) that correspond to the same portion of the video to have differing amounts of data (*i.e.* different number of bits).

With a compressed format such as MP3 this may mean that the files will be of different sizes in terms of the number of bits they actually contain.

(Leaning, 3:7-9).

(*See also* Houh Decl., ¶ 81).

To the extent DISH argues that Leaning's disclosure of bridging sub-files (Leaning, 17-19) results in files across the different copies not yielding the same portions of the video on

playback, such an argument is erroneous. As explained with respect to limitation 1.c, this optional feature is only relevant to certain encoding standards, such as H.261. Leaning discloses video with sub-files consisting entirely of I-frames or starting with I-frames, which would not require the bridging feature. (*Id.*, 16:17-23). Thus, as explained above, Leaning teaches that the streamlets across the different copies yield the same portions of the video on playback. (Houh Decl., ¶ 82).

2. Claim 2

This claim is rendered obvious by Leaning in combination with Allen. Claim 2 recites:

2. The system of claim 1, wherein the low quality stream is encoded at a bit rate of no greater than 100 kbps, and the medium quality stream is encoded at a bit rate between 100 kbps and 600 kbps.

This claim depends from Claim 1. As described above, Leaning in combination with Allen teaches all limitations of Claim 1.

Leaning teaches the additional subject matter of Claim 2. Leaning discloses at least a video quality level stream at “no greater than 100 kbps” because Leaning describes a video bitrate at 96 kbps, and Leaning discloses a video quality level stream encoded at a bitrate between 100 kbps and 600 kbps because Leaning describes a video quality level encoded at 128 kbps. (Leaning, 16:6-10, 18:18-27 (describing a video “mpg” with each set of subfiles encoded at **96k** and at **128k**)).

Further, as described above with respect to limitation 1.d, Leaning in combination with Allen also teaches this claim because Allen teaches encoding a low quality video stream to a bit rate of no greater than 100 kbps (*i.e.*, 56 kbps), and a medium quality stream at a bit rate between 100 kbps and 600 kbps (300 kbps) in addition to teaching a high quality stream encoded at 600 kbps. *See* limitation 1.d; (Houh Decl., ¶¶ 83-84).

3. Claim 6

This claim is rendered obvious by Leaning in combination with Allen. Claim 6 recites:

6. The system of claim 1, wherein the live event is a live sports event.
--

This claim depends from Claim 1. As described above, Leaning in combination with Allen teaches all limitations of Claim 1.

Allen teaches the additional subject matter of Claim 6. As explained in connection with limitations 1.pre-1.a, Leaning discloses that the video be of a live event. Allen teaches that the source of a video stream was, *inter alia*, a sporting event. (See Allen, 6:4-12 (video stream source of “a sporting event”), 7:21-8:4 (same)).

A POSITA would have been motivated to modify Leaning for the live event to be a sporting event because, as reflected by Allen, streaming sporting events was well known as of the Priority Date. (*Id.* (discussing the state of the art for video streaming); Houh Decl., ¶¶ 85-86). The particular type of live event—be it a sporting event or other type—would not alter the principle of operation of Leaning’s live event video streaming because the live event video would be encoded, stored, and streamed in the same manner as explained with respect to limitations 1.pre-1.a, regardless of subject matter. Although Allen describes a processing option that a producer “may favor” for a sporting event as compared to an ostensibly prerecorded romantic drama, *i.e.*, “very sharp ‘stop-action’ images” encoded in each frame vs. “temporal smoothing to blur motion,” this processing option was not mandatory and nevertheless would be consistent with the adaptive-rate content streaming of Claim 1. (Allen, 6:4-12, 7:21-8:4; Houh Decl., ¶ 86).

4. Claim 10

Claim 12, and not Claim 10, is a Reexam Claim herein. However, because Reexam Claim 12 depends from independent Claim 10 and therefore includes all limitations of Claim 10, this Request explains how Leaning in combination with Allen teaches all limitations of Claim 10.

Claim 10 recites:

[10.pre] 10. A content player device to stream a video over a network from a server for playback of the video, the content player device comprising:

Whether or not the preamble is limiting, Leaning teaches limitation 10.pre. *See* limitation 1.pre; (Houh Decl., ¶ 88).

[10.a] a processor;

Leaning teaches limitation 10.a. Leaning discloses a processor at terminals 3.

Turning now to the terminal, this may typically take the form of a conventional desktop computer, with, however, additional software for handling the reception of the audio files discussed. If desired, the terminal could take the form of a handheld computer, or even be incorporated into a mobile telephone. Thus Figure 2 shows such a terminal with a **central processor 30**, memory 31, a disk store 32, a keyboard 33, video display 34, communications interface 35, and audio interface (“sound card”) 36. . . .

(Leaning, 4:4-15).

(*See also id.*, 2:15-19, FIG. 2 (showing CPU 30 on user terminals); Houh Decl., ¶¶ 89-90).

[10.b] a digital processing apparatus memory device comprising non-transitory machine-readable instructions that, when executed, cause the processor to:

Leaning teaches limitation 10.b. Leaning discloses a digital processing apparatus memory device (memory 31) comprising non-transitory machine-readable instructions (software for player program and browser) that, when executed, causes the processor to perform functions such as requesting, receiving, and playing video.

Turning now to the terminal, this may typically take the form of a conventional desktop computer, with, however, additional software for handling the reception of the audio files discussed. If desired, the terminal could take the form of a handheld computer, or even be incorporated into a mobile telephone. Thus Figure 2 shows such a terminal with a **central processor 30, memory 31**, a disk store 32, a keyboard 33, video display 34, communications interface 35, and audio interface (“sound card”) 36. In the disk store are programs which may be retrieved into the memory 31 for **execution by the processor 30, in the usual manner**. These programs include a communications program 37 for call-up and display of html pages - that is, a “web browser” program such as Netscape Navigator or Microsoft Explorer, and a further program 38 which will be referred to here as “the player program” which provides the functionality necessary for the playing of audio files in accordance with this embodiment of the invention.

(Leaning, 4:4-15).

(See also *id.*, FIG. 2 (showing CPU 30 on user terminals); Houh Decl., ¶¶ 91-92).

<p><i>[10.c.1] establish one or more network connections between the client module and the server,</i></p>

Leaning teaches limitation 10.c.1. Leaning discloses establishing one or more Internet network connections between the client module or end user station (terminal 3) and the server (server 1).

In Figure 1, a server 1 is connected via the internet 2 to user terminals 3

(Leaning, 2:15-18).

Turning now to the terminal, this may typically take the form of a conventional desktop computer, with, however, additional software for handling the reception of the audio files discussed. If desired, the terminal could take the form of a handheld computer, or even be incorporated into a mobile telephone. Thus Figure 2 shows such a terminal with a central processor 30, memory 31, a disk store 32, a keyboard 33, video display 34, **communications interface 35**, and audio interface (“sound card”) 36. . . .

(*Id.*, 4:4-15).

(See also *id.*, FIGs. 1-2; Houh Decl., ¶¶ 93-94).

[10.c.2] wherein the server is configured to access at least one of a plurality of groups of streamlets;

Leaning teaches limitation 10.c.2. Leaning discloses that the server is configured to access at least one of a plurality of groups (sets) of streamlets (subfiles).

[T]he server stores two or more versions of the recording, recorded at different compression rates (for example at compressions corresponding to (continuous) data rates of 8, 16, 24 and 32 kbit/s respectively) and the player program is able to switch automatically between them. . . .

* * *

In order to provide for rate switching, the person preparing the file for loading onto the server prepares several source files - by **encoding the same PCM file several times at different rates. He then partitions each source file into sub-files, as before.** These can be **loaded onto the server in separate directories** corresponding to the different rate, as in the following example structure, where “008k”, “024k” in the directory name indicates a rate of 8 kbit/s or 24 kbit/s and so on.

(Leaning, 6:13-26).

See also limitations 1.a-1.c; (Houh Decl., ¶¶ 95-96).

[10.c.3] wherein the video is encoded at a plurality of different bitrates to create a plurality of streams including at least a low quality stream, a medium quality stream, and a high quality stream,

Leaning teaches limitation 10.c.3. See limitation 1.b; (Houh Decl., ¶ 97).

[10.c.4] wherein each of the low quality stream, the medium quality stream, and the high quality stream comprises a streamlet that encodes the same portion of the video at a different one of the plurality of different bitrates;

Leaning teaches limitation 10.c.4. See limitations 1.c (the low quality stream, the medium quality stream, and the high quality stream comprising a streamlet encoded at a different one of

the plurality of different bitrates), i.e. (encoding the same portion of the video at a different one of the plurality of different bitrates); (Houh Decl., ¶ 98).

[10.c.5] wherein at least one of the low quality stream, medium quality stream, and high quality stream is encoded at a bit rate of no less than 600 kbps; and

Leaning in combination with Allen teaches limitation 10.c.5. See limitation 1.d; (Houh Decl., ¶ 99).

[10.c.6] wherein the streamlet encoding the same portion of the video in the low quality stream has an equal playback duration as the streamlet encoding the same portion of the video in the high quality stream;

Leaning teaches limitation 10.c.6. See limitation 1.e; (Houh Decl., ¶ 100).

[10.d] select a specific one of the streams based upon a determination by the client module to select a higher or lower bitrate version of the streams;

Leaning teaches limitation 10.d. Leaning discloses selecting a specific one of the quality streams based upon a determination by the client module or end user station (terminal) to select a higher or lower bitrate version of the streams.

Delivery of recorded audio or video material over a telecommunications link (2) from a server (1) to a terminal (3) is accomplished by dividing the material into a **sequence of sub-files each of which is independently requested by the terminal**, which thereby has control of the rate of delivery. Provision may be made for switching between alternative sub-file sets representing alternative delivery modes of data rates.

(Leaning, Abstract).

According to one aspect of the invention there is provided a terminal for playing audio or video material which is stored on a remote server as a set of files representing successive temporal portions of the said material, the terminal comprising:
a telecommunications interface for communication with the server;
a buffer for receiving the files from the telecommunications interface;
means for playing the contents of the buffer; and
control means responsive to the state of the buffer to generate

request messages for further files for replenishment of the buffer.

(*Id.*, 1:12-19).

The function of the server 1 is to store data files, to **receive from a user terminal a request for delivery of a desired data file and, in response to such a request, to transmit the file to the user terminal via the network.**”

(*Id.*, 2:16-18).

The player program, having received the URL, adds to this the filename of the first sub-file, to produce a complete address for the sub-file - i.e. www.server1.com/mp3_bwv565/000000.bin. . . . The program constructs a **request message for the file having this URL and transmits it to the server 1 via the communications interface 35 and the internet 2.** . . . We envisage that the **player program would send the requests** directly to the communications interface, rather than via the browser. The server responds by transmitting the required sub-file.

* * *

The **player program increments the filename to 000001.bin and requests**, receives, decodes and stores this second sub-file as described in (4) and (5) above. . . .

* * *

. . . This process is repeated until a “file not found error” is returned.

(*Id.*, 5:4-6:2).

See also limitations 1.pre (explaining audio disclosures apply equally to video in the same way), 1.b-1.c; (Leaning, 6:27-7:2, 8:6-16, Claims 1, 11 and 16; Houh Decl., ¶¶ 101-102).

Leaning further discloses that the at least one streamlet (subfile) request from the one or more end user stations (terminals) includes a request for a currently selected one of the low quality stream, the medium quality stream, and the high quality stream based upon a determination by the client to select a higher or lower bitrate version of the streams.

Initially the player program will begin by requesting, from the directory specified in the link file, the index file, and stores locally a list of available data rates for future reference. . . . It then begins to request the audio sub-files as described earlier, from the first-mentioned “rate” directory in the index file – viz. 024k_ll_s The process from then on is that the **player program measures the actual data rate being received from the server, averaged over a period of time (for example 30 seconds)**. It does this by timing every URL request; the transfer rate achieved (number of bits per second) between the client and server is **determined**. . . .

* * *

The actual rate change is effected simply by the player program changing the relevant part of the sub-file address for example, **changing “008k” to “024k”** to increase the data rate from 8 to 24 kbit/s, and changing the current rate parameter to match. As a result, **the next request to the server becomes a request for the higher (or lower) rate**, and the sub-file from the new directory is received, decoded and entered into the buffer.

(Leaning, 8:6-11:1).

A terminal for playing audio or video material which is stored on a remote server as a set of files representing successive temporal portions of the said material

(*Id.*, Claim 1).

. . . [A] server storing a plurality of sets of files, which sets correspond to respective different delivery modes, the **terminal** including:
means operable to **effect mode switching** by providing that **subsequent request messages shall request files from a set different from the set to which the immediately preceding request related**.

(*Id.*, Claim 4).

. . . [S]aid **sets of files correspond to respective different data rates**, in which:
the terminal includes means for monitoring the received data rate; the mode switching means is operable, in the event that the measured rate is below that needed for the set to which the currently requested file belongs, to provide that subsequent said request messages shall request files from a set corresponding to a **lower data rate**.

(*Id.*, Claim 5).

. . . [I]n the event that the measured rate is sufficient to support delivery of files of a higher data rate than that of the set to which the currently requested file belongs, to provide that subsequent said request messages shall request files from a set corresponding to a **higher data rate**.

(*Id.*, Claim 6).

. . . [E]ffecting mode switching by providing that **subsequent request messages shall request files from a set different from the set to which the immediately preceding request related**.

(*Id.*, Claim 16).

. . . [I]n the event that the measured rate is below that needed for the set to which the currently requested field belongs, performing mode switching to provide that subsequent said request messages shall request files from a set corresponding to a **lower data rate**.

(*Id.*, Claim 17).

. . . [I]n the event that the measured rate is sufficient to support delivery of files of a higher data rate than that of the set to which the currently requested file belongs, performing mode switching to provide that subsequent said request messages shall request files from a set corresponding to a **higher data rate**.

(*Id.*, Claim 18).

See also limitation 1.b; (Leaning, Abstract, 6:9-7:3 (describing creating subfile sets at different bitrates for a requesting terminal), Claims 11 and 12; Houh Decl., ¶¶ 103-104).

<p><i>[10.e] place a streamlet request to the server over the one or more network connections for the selected stream;</i></p>

Leaning teaches limitation 10.e. Leaning discloses placing a streamlet (subfile) request to the server over the internet connection for the first streamlet of the selected stream.

The player program, having received the URL, adds to this the filename of the first sub-file, to produce a complete address for the sub-file - i.e. www.serverl.com/mp3_bwv565/000000.bin. . . The program **constructs a request message for the file having this**

URL and transmits it to the server 1 via the communications interface 35 and the internet 2. . . We envisage that the **player program would send the requests** directly to the communications interface, rather than via the browser. The server responds by transmitting the required sub-file.

* * *

The player program increments the filename to 000001.bin and requests, receives, decodes and stores this second sub-file as described in (4) and (5) above. . . .

* * *

. . . This process is repeated until a “file not found error” is returned.

(Leaning, 5:4-6:2).

See also limitation 10.d; (Houh Decl., ¶¶ 105-106).

<p><i>[10.f] receive the requested first streamlet from the server via the one or more network connections; and provide the received first streamlet for playback of the live event video.</i></p>
--

Leaning teaches limitation 10.f. Leaning discloses receiving the requested streamlets (subfiles) from the server via the one or more Internet network connections and provide the received subfiles for playback of the video.

- b) receiving the files; and
- c) decoding the files for replay of the material.

(Leaning, 1:27-28).

The function of the server 1 is to store data files, to receive from a user terminal a request for delivery of a desired data file and, in response to such a request, to **transmit the file to the user terminal via the network.**”

(*Id.*, 2:16-18).

See also limitation 10.d; (Leaning, 4:4-21, 5:23-6:2, Claim 1; Houh Decl., ¶¶ 107-108).

5. Claim 12

This claim is rendered obvious by Leaning in combination with Allen. Claim 12 recites:

12. The content player device of claim 10, wherein the low quality stream is encoded at a bit rate of no greater than 100 kbps and the medium quality stream is encoded at a bit rate between 100 kbps and 600 kbps.

This claim depends from Claim 10. As described above, Leaning teaches all limitations of Claim 10.

Leaning, alone or in combination with Allen, teaches the additional subject matter of Claim 12. *See* Claim 2; (Houh Decl., ¶ 109).

6. Claim 18

Claim 21, and not Claim 18, is a Reexam Claim herein. However, because Reexam Claim 21 depends from dependent Claim 20, which depends from independent Claim 18, and therefore includes all limitations of Claims 18 and 20, this Request explains how Leaning teaches all limitations of Claims 18 and 20.

Claim 18 recites:

[18.pre] 18. A system for adaptive-rate content streaming of live event video playable on one or more end user stations over the internet, the system comprising:

Whether or not the preamble is limiting, Leaning teaches limitation 18.pre. Leaning discloses a system for adaptive-rate content streaming of a live event video that is playable on one or more end user stations and/or content player devices (terminals) over the Internet. *See* limitation 1.pre; (Houh Decl., ¶ 111).

[18.a] at least one storage device configured to store live event video,

Leaning teaches limitation 18.a. *See* limitation 1.a; (Houh Decl., ¶ 112).

[18.b] the live event video encoded at a plurality of different bit rates creating a plurality of streams including at least a low quality stream and a high quality stream;

Leaning teaches limitation 18.b. *See* limitation 1.b; (Houh Decl., ¶ 113).

[18.c] the low quality stream and the high quality stream each encoding the same portion of the live event video with a streamlet that is encoded a different one of the different bit rates;

Leaning teaches limitation 18.c. *See* limitations 1.c (the low quality stream and the high quality stream comprising a streamlet encoded at a different one of the different bitrates), 1.e (encoding the same portion of the live event video at a different one of the different bitrates); (Houh Decl., ¶ 114).

[18.d] wherein the plurality of streamlets in the low quality stream and the plurality of streamlets in the high quality stream have durations that are equal to each other.

Leaning teaches limitation 18.d. *See* limitation 1.e; (Houh Decl., ¶ 115).

7. Claim 20

Claim 21, and not Claim 20, is a Reexam Claim herein. However, because Reexam Claim 21 depends from dependent Claim 20, which depends from independent Claim 18, and therefore includes all limitations of Claims 18 and 20, this Request explains how Leaning teaches all limitations of Claims 18 and 20.

Claim 20 recites:

20. The system of claim 18 wherein the plurality of streams further comprise a medium quality stream encoded at a bit rate higher than the low quality stream and lower than the high quality stream.

This claim depends from Claim 18. As described above, Leaning teaches all limitations of Claim 18.

Leaning teaches the additional subject matter of Claim 20. *See* limitations 1.b-1.c; (Houh Decl., ¶ 117).

8. Claim 21

This claim is rendered obvious by Leaning in combination with Allen. Claim 21 recites:

21. The system of claim 20 wherein the low quality stream is encoded at a bit rate of no less than 100 kbps, the high quality stream is encoded at a bit rate of no less than 600 kbps, and the medium quality stream is encoded at a bit rate between 100 kbps and 600 kbps.

This claim depends from Claim 20. As described above, Leaning teaches all limitations of Claim 20.

Leaning in combination with Allen teaches the additional subject matter of Claim 21. Leaning discloses at least a video quality level stream at “no less than 100 kbps” because Leaning describes a video bitrate at 128 kbps. *See* limitation 1.d; (Leaning, 16:6-10, 18:18-27 (describing a video “mpg” with each set of subfiles encoded at 96k and at **128k**); Houh Decl., ¶ 118).

To the extent it is argued or found that Leaning does not explicitly teach medium and high quality video streams encoded a bitrate between 100 kbps and 600 kbps and at a bitrate of no less than 600 kbps, respectively, Allen teaches this limitation. Allen teaches that it was known to encode video content into at least three different quality levels (or bitrates) for streaming including a medium quality at 300 kbps, and a high quality at 600 kbps, in order to allow streaming to various clients with different network requirements. (Allen, 12:1-5). A POSITA would have been motivated to encode a video embodiment of Leaning (including the corresponding sets of subfiles) into each of a low quality (128 kbps as disclosed in Leaning), medium quality (300 kbps as taught by Allen), and high quality level (600 kbps at taught by Allen) because it would enable client terminals with a wide variety of network bandwidth

requirements to stream the video and would have allowed for those with user terminals with high bandwidth connections to stream at 600 kbps and enjoy higher resolution viewing while still allowing those with bandwidth connections that cannot support 600 kbps to stream the video at an appropriate rate. (Houh Decl., ¶ 119). A POSITA would have had a reasonable expectation of success with such a combination because both Leaning and Allen are drawn to similar systems of client-server based streaming of video encoded into multiple different bitrate copies and because simply encoding one of the video streams a particular bitrate, such as the 300 kbps and 600 kbps taught by Allen, would have been a simple and straightforward modification for a POSITA. (*Id.*).

In the Ogdon IPR, the PTAB determined that Allen teaches “formatting a video at three different bitrates,” contrary to an argument by DISH that Allen teaches away. As the PTAB held, discussing a combination of Allen with Ogdon:

The fact that this teaching appears in a background section does not detract from Allen’s usefulness in the proposed combination because we must consider Allen “for everything it *teaches* by way of technology,” which is “not limited to the particular *invention* it is describing and attempting to protect.” *EWP Corp. v. Reliance Universal Inc.*, 755 F.2d 898, 907 (Fed. Cir. 1985). And, even if we were to look to Allen’s particular invention, Petitioner establishes that Allen teaches the encoding at edge servers of video into various “formats and bit rates matched to . . . each viewer.” [Allen], 24:19–25:23. Thus, Allen also supports Petitioner’s proposed combination. We find that neither Ogdon nor Allen teaches away from the proposed combination.

Aylo Freesites Ltd v. DISH Technologies L.L.C., IPR2024-00146, Paper 57 at 27-28 (PTAB Apr. 17, 2025). The PTAB’s findings as to Allen apply whether combined with Ogdon or with Leaning, and neither Leaning nor Allen teaches away from the combination of Leaning and Allen and the teaching of Claim 21. (Houh Decl., ¶ 120).

B. SNQP-2: Obviousness over Leaning and Brown

Claims 2, 12, and 21 are rendered obvious by Leaning in combination with Brown.

1. Claim 1

Claims 2 and 6, and not Claim 1, are Reexam Claims herein. However, because Reexam Claims 2 and 6 depend from independent Claim 1 and therefore include all limitations of Claim 1, this Request explains how Leaning in combination with Brown teaches all limitations of Claim 1.

Claim 1 recites:

[1.pre] 1. A system for adaptive-rate content streaming of live event video playable on one or more end user stations over the Internet, the system comprising:

Whether or not the preamble is limiting, Leaning teaches limitation 1.pre for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (*See Houh Decl.*, ¶ 122).

[1.a] at least one storage device storing live event video,

Leaning teaches limitation 1.a for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (*See Houh Decl.*, ¶ 123).

[1.b] the live event video encoded at a plurality of different bitrates creating a plurality of streams including a low quality stream, a medium quality stream, and a high quality stream,

Leaning teaches limitation 1.b for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (*See Houh Decl.*, ¶ 124).

[1.c] the low quality stream, the medium quality stream, and the high quality stream each comprising a group of streamlets encoded at a respective one of the plurality of different bitrates;

Leaning teaches limitation 1.c for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (*See Houh Decl.*, ¶ 125).

[1.d] wherein at least one of the low quality stream, the medium quality stream, and the high quality stream is encoded at a bitrate of no less than 600 kbps;

Leaning in combination with Brown teaches limitation 1.d. As explained above, Leaning teaches two or more streams encoded at different bitrates including one example with four streams encoded at 8, 16, 24, and 32 kbit/s, respectively. *See* limitations 1.pre-1.c. Further, Leaning's example bitrates of 8, 16, 24, and 32 kbit/s, respectively, are for audio encodings—which a POSITA would have understood generally require less data to stream than video encodings and thus typically have lower bitrates. (Houh Decl., ¶ 126). Leaning also teaches that the same principles may be applied to video encodings, and a POSITA would have understood that a user streaming video encodings at the time of the Priority Date would generally prefer higher bitrate encoding if supported by the user's network requirements, such as 600 kbps, to enjoy high quality viewing. (Leaning, 16:6-10, 18:18-27 (describing a video “mpg” with each set of subfiles encoded at 96k and at 128k); Houh Decl., ¶ 126).

To the extent it is argued or found that Leaning does not explicitly teach a stream encoded at a bitrate of no less than 600 kbps, Brown teaches this limitation. Brown teaches that it was known to encode video content into at least three different quality levels (or bitrates) for streaming, for example at 100 kbps, at 300 kbps, and at 600 kbps, in order to allow streaming to various clients with different network requirements. (Brown, 10:67-11:9). A POSITA would have been motivated to encode a video embodiment of Leaning (including the corresponding sets of subfiles) into each of a low quality, medium quality, and high quality level bitrate stream (low at 100 kbps, medium at 300 kbps, and high at 600 kbps), as taught by Brown, because it would enable client terminals with a wide variety of network bandwidth requirements to stream the video and would have allowed for those with user terminals with high bandwidth connections to stream at 600 kbps and enjoy higher resolution viewing. (Houh Decl., ¶ 127). A POSITA would

have had a reasonable expectation of success with such a combination because both Leaning and Brown are drawn to similar systems of client-server based streaming of video encoded into multiple different bitrate copies and because simply encoding one of the video streams at a particular bitrate, such as the 600 kbps taught by Brown, would have been a simple and straightforward modification for a POSITA. (*Id.*).

[1.e] wherein the amount of data in each streamlet corresponding to the same part of the live event video in the low quality stream, the medium quality stream, and the high quality stream varies according to the different bitrates; and the plurality of streamlets in the low quality stream, the medium quality stream, and the high quality stream having a duration that is the same as each other.

Leaning teaches limitation 1.e for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (*See* Houh Decl., ¶ 128).

2. Claim 2

This claim is rendered obvious by Leaning in combination with Brown. Claim 2 recites:

2. The system of claim 1, wherein the low quality stream is encoded at a bit rate of no greater than 100 kbps, and the medium quality stream is encoded at a bit rate between 100 kbps and 600 kbps.

This claim depends from Claim 1. As described above, Leaning in combination with Brown teaches all limitations of Claim 1.

Leaning teaches the additional subject matter of Claim 2. Leaning discloses at least a video quality level stream at “no greater than 100 kbps” because Leaning describes a video bitrate at 96 kbps, and Leaning discloses a video quality level stream encoded at a bitrate between 100 kbps and 600 kbps because Leaning describes a video quality level encoded at 128 kbps. (Leaning, 16:6-10, 18:18-27 (describing a video “mpg” with each set of subfiles encoded at **96k** and at **128k**)).

Further, as described above with respect to limitation 1.d, Leaning in combination with Brown also teaches this claim because Brown teaches encoding a low quality video stream to a bit rate of no greater than 100 kbps (*i.e.*, 100 kbps), and a medium quality stream at a bit rate between 100 kbps and 600 kbps (300 kbps) in addition to teaching a high quality stream encoded at 600 kbps. *See* limitation 1.d; (Houh Decl., ¶¶ 129-130). Additionally, Brown teaches encoding a low quality video stream at 50 kbps. (Brown, 7:5-10).

3. Claim 10

Claim 12, and not Claim 10, is a Reexam Claim herein. However, because Reexam Claim 12 depends from independent Claim 10 and therefore includes all limitations of Claim 10, this Request explains how Leaning in combination with Brown teaches all limitations of Claim 10.

Claim 10 recites:

[10.pre] 10. A content player device to stream a video over a network from a server for playback of the video, the content player device comprising:

Whether or not the preamble is limiting, Leaning teaches limitation 10.pre for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (*See* Houh Decl., ¶ 132).

[10.a] a processor;

Leaning teaches limitation 10.a for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (*See* Houh Decl., ¶ 133).

[10.b] a digital processing apparatus memory device comprising non-transitory machine-readable instructions that, when executed, cause the processor to:

Leaning teaches limitation 10.b for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (*See* Houh Decl., ¶ 134).

[10.c.1] establish one or more network connections between the client module and the server,

Leaning teaches limitation 10.c.1 for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (See Houh Decl., ¶ 135).

[10.c.2] wherein the server is configured to access at least one of a plurality of groups of streamlets;

Leaning teaches limitation 10.c.2 for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (See Houh Decl., ¶ 136).

[10.c.3] wherein the video is encoded at a plurality of different bitrates to create a plurality of streams including at least a low quality stream, a medium quality stream, and a high quality stream,

Leaning teaches limitation 10.c.3 for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (See Houh Decl., ¶ 137).

[10.c.4] wherein each of the low quality stream, the medium quality stream, and the high quality stream comprises a streamlet that encodes the same portion of the video at a different one of the plurality of different bitrates;

Leaning teaches limitation 10.c.4 for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (See Houh Decl., ¶ 138).

[10.c.5] wherein at least one of the low quality stream, medium quality stream, and high quality stream is encoded at a bit rate of no less than 600 kbps; and

Leaning in combination with Brown teaches limitation 10.c.5. See limitation 1.d. (See Houh Decl., ¶ 139).

[10.c.6] wherein the streamlet encoding the same portion of the video in the low quality stream has an equal playback duration as the streamlet encoding the same portion of the video in the high quality stream;

Leaning teaches limitation 10.c.6 for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (See Houh Decl., ¶ 140).

[10.d] select a specific one of the streams based upon a determination by the client module to select a higher or lower bitrate version of the streams;

Leaning teaches limitation 10.d for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (See Houh Decl., ¶ 141).

[10.e] place a streamlet request to the server over the one or more network connections for the selected stream;

Leaning teaches limitation 10.e for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (See Houh Decl., ¶ 142).

[10.f] receive the requested first streamlet from the server via the one or more network connections; and provide the received first streamlet for playback of the live event video.

Leaning teaches limitation 10.f for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (See Houh Decl., ¶ 143).

4. Claim 12

This claim is rendered obvious by Leaning in combination with Brown. Claim 12 recites:

12. The content player device of claim 10, wherein the low quality stream is encoded at a bit rate of no greater than 100 kbps and the medium quality stream is encoded at a bit rate between 100 kbps and 600 kbps.

This claim depends from Claim 10. As described above, Leaning teaches all limitations of Claim 10.

Leaning, alone or in combination with Brown, teaches the additional subject matter of Claim 12. See Claim 2; (Houh Decl., ¶ 144).

5. Claim 18

Claim 21, and not Claim 18, is a Reexam Claim herein. However, because Reexam Claim 21 depends from dependent Claim 20, which depends from independent Claim 18, and therefore

includes all limitations of Claims 18 and 20, this Request explains how Leaning teaches all limitations of Claims 18 and 20.

Claim 18 recites:

[18.pre] 18. A system for adaptive-rate content streaming of live event video playable on one or more end user stations over the internet, the system comprising:

Whether or not the preamble is limiting, Leaning teaches limitation 18.pre for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (See Houh Decl., ¶ 146).

[18.a] at least one storage device configured to store live event video,

Leaning teaches limitation 18.a for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (See Houh Decl., ¶ 147).

[18.b] the live event video encoded at a plurality of different bit rates creating a plurality of streams including at least a low quality stream and a high quality stream;

Leaning teaches limitation 18.b for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (See Houh Decl., ¶ 148).

[18.c] the low quality stream and the high quality stream each encoding the same portion of the live event video with a streamlet that is encoded a different one of the different bit rates;

Leaning teaches limitation 18.c for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (See Houh Decl., ¶ 149).

[18.d] wherein the plurality of streamlets in the low quality stream and the plurality of streamlets in the high quality stream have durations that are equal to each other.

Leaning teaches limitation 18.d for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (See Houh Decl., ¶ 150).

6. Claim 20

Claim 21, and not Claim 20, is a Reexam Claim herein. However, because Reexam Claim 21 depends from dependent Claim 20, which depends from independent Claim 18, and therefore includes all limitations of Claims 18 and 20, this Request explains how Leaning teaches all limitations of Claims 18 and 20.

Claim 20 recites:

20. The system of claim 18 wherein the plurality of streams further comprise a medium quality stream encoded at a bit rate higher than the low quality stream and lower than the high quality stream.

This claim depends from Claim 18. As described above, Leaning teaches all limitations of Claim 18.

Leaning teaches the additional subject matter of Claim 20 for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (*See* Houh Decl., ¶ 152).

7. Claim 21

This claim is rendered obvious by Leaning in combination with Brown. Claim 21 recites:

21. The system of claim 20 wherein the low quality stream is encoded at a bit rate of no less than 100 kbps, the high quality stream is encoded at a bit rate of no less than 600 kbps, and the medium quality stream is encoded at a bit rate between 100 kbps and 600 kbps.

This claim depends from Claim 20. As described above, Leaning teaches all limitations of Claim 20.

Leaning in combination with Brown teaches the additional subject matter of Claim 21. Leaning discloses at least a video quality level stream at “no less than 100 kbps” because Leaning describes a video bitrate at 128 kbps. *See* limitation 1.d; (Leaning, 16:6-10, 18:18-27 (describing a video “mpg” with each set of subfiles encoded at 96k and at **128k**); Houh Decl., ¶ 153).

To the extent it is argued or found that Leaning does not explicitly teach medium and high quality video streams encoded a bitrate between 100 kbps and 600 kbps and at a bitrate of no less than 600 kbps, respectively, Brown teaches this limitation. Brown teaches that it was known to encode video content into at least three different quality levels (or bitrates) for streaming including a medium quality at 300 kbps, and a high quality at 600 kbps, in order to allow streaming to various clients with different network requirements. (Brown, 10:67-11:9). A POSITA would have been motivated to encode a video embodiment of Leaning (including the corresponding sets of subfiles) into each of a low quality (128 kbps as disclosed in Leaning), medium quality (300 kbps as taught by Brown), and high quality level (600 kbps as taught by Brown) because it would enable client terminals with a wide variety of network bandwidth requirements to stream the video and would have allowed for those with user terminals with high bandwidth connections to stream at 600 kbps and enjoy higher resolution viewing while still allowing those with bandwidth connections that cannot support 600 kbps to stream the video at an appropriate rate. (Houh Decl., ¶ 154). A POSITA would have had a reasonable expectation of success with such a combination because both Leaning and Brown are drawn to similar systems of client-server based streaming of video encoded into multiple different bitrate copies and because simply encoding one of the video streams a particular bitrate, such as the 300 kbps and 600 kbps taught by Brown, would have been a simple and straightforward modification for a POSITA. (*Id.*).

C. SNQP-3: Obviousness over Leaning, Brown, and Allen

Claim 6 is rendered obvious by Leaning in combination with Brown and Allen.

1. Claim 6

This claim is rendered obvious by Leaning in combination with Brown and Allen. Claim 6 recites:

6. The system of claim 1, wherein the live event is a live sports event.

This claim depends from Claim 1. As set forth above in SNQP-2 (Section (VIII.B.1), Leaning in combination with Brown teaches all limitations of Claim 1.

Allen teaches the additional subject matter of Claim 6 for the same reasons discussed above in SNQP-1 (Section VIII.A.3). (*See Houh Decl.*, ¶ 155).

D. SNQP-4: Obviousness over Leaning and Reme

Claims 2, 12, and 21 are rendered obvious by Leaning in combination with Reme.

1. Claim 1

Claims 2 and 6, and not Claim 1, are Reexam Claims herein. However, because Reexam Claims 2 and 6 depend from independent Claim 1 and therefore include all limitations of Claim 1, this Request explains how Leaning in combination with Reme teaches all limitations of Claim 1.

Claim 1 recites:

[1.pre] 1. A system for adaptive-rate content streaming of live event video playable on one or more end user stations over the Internet, the system comprising:

Whether or not the preamble is limiting, Leaning teaches limitation 1.pre for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (*See Houh Decl.*, ¶ 157).

[1.a] at least one storage device storing live event video,

Leaning teaches limitation 1.a for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (*See Houh Decl.*, ¶ 158).

[1.b] the live event video encoded at a plurality of different bitrates creating a plurality of streams including a low quality stream, a medium quality stream, and a high quality stream,

Leaning teaches limitation 1.b for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (See Houh Decl., ¶ 159).

[1.c] the low quality stream, the medium quality stream, and the high quality stream each comprising a group of streamlets encoded at a respective one of the plurality of different bitrates;

Leaning teaches limitation 1.c for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (See Houh Decl., ¶ 160).

[1.d] wherein at least one of the low quality stream, the medium quality stream, and the high quality stream is encoded at a bitrate of no less than 600 kbps;

Leaning in combination with Reme teaches limitation 1.d. As explained above, Leaning teaches two or more streams encoded at different bitrates including one example with four streams encoded at 8, 16, 24, and 32 kbit/s, respectively. See limitations 1.pre-1.c. Further, Leaning’s example bitrates of 8, 16, 24, and 32 kbit/s, respectively, are for audio encodings—which a POSITA would have understood generally require less data to stream than video encodings and thus typically have lower bitrates. (Houh Decl., ¶ 161). Leaning also teaches that the same principles may be applied to video encodings, and a POSITA would have understood that a user streaming video encodings at the time of the Priority Date would generally prefer higher bitrate encoding if supported by the user’s network requirements, such as 600 kbps, to enjoy high quality viewing. (Leaning, 16:6-10, 18:18-27 (describing a video “mpg” with each set of subfiles encoded at 96k and at 128k); Houh Decl., ¶ 161).

To the extent it is argued or found that Leaning does not explicitly teach a stream encoded at a bitrate of no less than 600 kbps, Reme teaches this limitation. Reme teaches that it

was known to encode video content into at least three different quality levels (or bitrates) for streaming, for example at 30 kbps, at 300 kbps, and at 5 Mbps, in order to allow streaming to various clients with different network requirements. (Reme, 3:11-17, 5:1-12). A POSITA would have been motivated to encode a video embodiment of Leaning (including the corresponding sets of subfiles) into each of a low quality, medium quality, and high quality level bitrate stream (low at 30 kbps, medium at 300 kbps, and high at 5 Mbps), as taught by Reme, because it would enable client terminals with a wide variety of network bandwidth requirements to stream the video and would have allowed for those with user terminals with high bandwidth connections to stream at 5 Mbps and enjoy higher resolution viewing. (Houh Decl., ¶ 162). A POSITA would have had a reasonable expectation of success with such a combination because both Leaning and Reme are drawn to similar systems of client-server based streaming of video encoded into multiple different bitrate copies and because simply encoding one of the video streams at a particular bitrate, such as the 5 Mbps taught by Reme, would have been a simple and straightforward modification for a POSITA. (*Id.*).

[1.e] wherein the amount of data in each streamlet corresponding to the same part of the live event video in the low quality stream, the medium quality stream, and the high quality stream varies according to the different bitrates; and the plurality of streamlets in the low quality stream, the medium quality stream, and the high quality stream having a duration that is the same as each other.

Leaning teaches limitation 1.e for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (See Houh Decl., ¶ 163).

2. Claim 2

This claim is rendered obvious by Leaning in combination with Reme. Claim 2 recites:

2. The system of claim 1, wherein the low quality stream is encoded at a bit rate of no greater than 100 kbps, and the medium quality stream is encoded at a bit rate between 100 kbps and 600 kbps.

This claim depends from Claim 1. As described above, Leaning in combination with Reme teaches all limitations of Claim 1.

Leaning teaches the additional subject matter of Claim 2. Leaning discloses at least a video quality level stream at “no greater than 100 kbps” because Leaning describes a video bitrate at 96 kbps, and Leaning discloses a video quality level stream encoded at a bitrate between 100 kbps and 600 kbps because Leaning describes a video quality level encoded at 128 kbps. (Leaning, 16:6-10, 18:18-27 (describing a video “mpg” with each set of subfiles encoded at **96k** and at **128k**)).

Further, as described above with respect to limitation 1.d, Leaning in combination with Reme also teaches this claim because Reme teaches encoding a low quality video stream to a bit rate of no greater than 100 kbps (*i.e.*, 30 kbps), and a medium quality stream at a bit rate between 100 kbps and 600 kbps (300 kbps) in addition to teaching a high quality stream encoded at 5 Mbps. *See* limitation 1.d; (Houh Decl., ¶¶ 164-165).

3. Claim 10

Claim 12, and not Claim 10, is a Reexam Claim herein. However, because Reexam Claim 12 depends from independent Claim 10 and therefore includes all limitations of Claim 10, this Request explains how Leaning in combination with Reme teaches all limitations of Claim 10.

Claim 10 recites:

[10.pre] 10. A content player device to stream a video over a network from a server for playback of the video, the content player device comprising:

Whether or not the preamble is limiting, Leaning teaches limitation 10.pre for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (*See* Houh Decl., ¶ 167).

[10.a] a processor;

Leaning teaches limitation 10.a for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (See Houh Decl., ¶ 168).

[10.b] a digital processing apparatus memory device comprising non-transitory machine-readable instructions that, when executed, cause the processor to:

Leaning teaches limitation 10.b for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (See Houh Decl., ¶ 169).

[10.c.1] establish one or more network connections between the client module and the server,

Leaning teaches limitation 10.c.1 for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (See Houh Decl., ¶ 170).

[10.c.2] wherein the server is configured to access at least one of a plurality of groups of streamlets;

Leaning teaches limitation 10.c.2 for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (See Houh Decl., ¶ 171).

[10.c.3] wherein the video is encoded at a plurality of different bitrates to create a plurality of streams including at least a low quality stream, a medium quality stream, and a high quality stream,

Leaning teaches limitation 10.c.3 for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (See Houh Decl., ¶ 172).

[10.c.4] wherein each of the low quality stream, the medium quality stream, and the high quality stream comprises a streamlet that encodes the same portion of the video at a different one of the plurality of different bitrates;

Leaning teaches limitation 10.c.4 for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (See Houh Decl., ¶ 173).

[10.c.5] wherein at least one of the low quality stream, medium quality stream, and high quality stream is encoded at a bit rate of no less than 600 kbps; and

Leaning in combination with Reme teaches limitation 10.c.5. *See* limitation 1.d. (*See* Houh Decl., ¶ 174).

[10.c.6] wherein the streamlet encoding the same portion of the video in the low quality stream has an equal playback duration as the streamlet encoding the same portion of the video in the high quality stream;

Leaning teaches limitation 10.c.6 for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (*See* Houh Decl., ¶ 175).

[10.d] select a specific one of the streams based upon a determination by the client module to select a higher or lower bitrate version of the streams;

Leaning teaches limitation 10.d for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (*See* Houh Decl., ¶ 176).

[10.e] place a streamlet request to the server over the one or more network connections for the selected stream;

Leaning teaches limitation 10.e for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (*See* Houh Decl., ¶ 177).

[10.f] receive the requested first streamlet from the server via the one or more network connections; and provide the received first streamlet for playback of the live event video.

Leaning teaches limitation 10.f for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (*See* Houh Decl., ¶ 178).

4. Claim 12

This claim is rendered obvious by Leaning in combination with Reme. Claim 12 recites:

12. The content player device of claim 10, wherein the low quality stream is encoded at a bit rate of no greater than 100 kbps and the medium quality stream is encoded at a bit rate between 100 kbps and 600 kbps.

This claim depends from Claim 10. As described above, Leaning teaches all limitations of Claim 10.

Leaning, alone or in combination with Reme, teaches the additional subject matter of Claim 12. *See* Claim 2; (Houh Decl., ¶ 179).

5. Claim 18

Claim 21, and not Claim 18, is a Reexam Claim herein. However, because Reexam Claim 21 depends from dependent Claim 20, which depends from independent Claim 18, and therefore includes all limitations of Claims 18 and 20, this Request explains how Leaning teaches all limitations of Claims 18 and 20.

Claim 18 recites:

[18.pre] 18. A system for adaptive-rate content streaming of live event video playable on one or more end user stations over the internet, the system comprising:

Whether or not the preamble is limiting, Leaning teaches limitation 18.pre for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (*See* Houh Decl., ¶ 181).

[18.a] at least one storage device configured to store live event video,

Leaning teaches limitation 18.a for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (*See* Houh Decl., ¶ 182).

[18.b] the live event video encoded at a plurality of different bit rates creating a plurality of streams including at least a low quality stream and a high quality stream;

Leaning teaches limitation 18.b for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (*See* Houh Decl., ¶ 183).

[18.c] the low quality stream and the high quality stream each encoding the same portion of the live event video with a streamlet that is encoded a different one of the different bit rates;

Leaning teaches limitation 18.c for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (See Houh Decl., ¶ 184).

[18.d] wherein the plurality of streamlets in the low quality stream and the plurality of streamlets in the high quality stream have durations that are equal to each other.

Leaning teaches limitation 18.d for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (See Houh Decl., ¶ 185).

6. Claim 20

Claim 21, and not Claim 20, is a Reexam Claim herein. However, because Reexam Claim 21 depends from dependent Claim 20, which depends from independent Claim 18, and therefore includes all limitations of Claims 18 and 20, this Request explains how Leaning teaches all limitations of Claims 18 and 20.

Claim 20 recites:

20. The system of claim 18 wherein the plurality of streams further comprise a medium quality stream encoded at a bit rate higher than the low quality stream and lower than the high quality stream.

This claim depends from Claim 18. As described above, Leaning teaches all limitations of Claim 18.

Leaning teaches the additional subject matter of Claim 20 for the same reasons as discussed above in SNQP-1 (Section VIII.A.1). (See Houh Decl., ¶ 187).

7. Claim 21

This claim is rendered obvious by Leaning in combination with Reme. Claim 21 recites:

21. The system of claim 20 wherein the low quality stream is encoded at a bit rate of no less than 100 kbps, the high quality stream is encoded at a bit rate of no less than 600 kbps, and the medium quality stream is encoded at a bit rate between 100 kbps and 600 kbps.

This claim depends from Claim 20. As described above, Leaning teaches all limitations of Claim 20.

Leaning in combination with Reme teaches the additional subject matter of Claim 21. Leaning discloses at least a video quality level stream at “no less than 100 kbps” because Leaning describes a video bitrate at 128 kbps. *See* limitation 1.d; (Leaning, 16:6-10, 18:18-27 (describing a video “mpg” with each set of subfiles encoded at 96k and at **128k**); Houh Decl., ¶ 188).

To the extent it is argued or found that Leaning does not explicitly teach medium and high quality video streams encoded a bitrate between 100 kbps and 600 kbps and at a bitrate of no less than 600 kbps, respectively, Reme teaches this limitation. Reme teaches that it was known to encode video content into at least three different quality levels (or bitrates) for streaming including a medium quality at 300 kbps, and a high quality at 5 Mbps, in order to allow streaming to various clients with different network requirements. (Reme, 3:11-17, 5:1-12). A POSITA would have been motivated to encode a video embodiment of Leaning (including the corresponding sets of subfiles) into each of a low quality (128 kbps as disclosed in Leaning), medium quality (300 kbps as taught by Reme), and high quality level (5 Mbps as taught by Reme) because it would enable client terminals with a wide variety of network bandwidth requirements to stream the video and would have allowed for those with user terminals with high bandwidth connections to stream at 5 Mbps and enjoy higher resolution viewing while still

allowing those with bandwidth connections that cannot support 5 Mbps to stream the video at an appropriate rate. (Houh Decl., ¶ 189). A POSITA would have had a reasonable expectation of success with such a combination because both Leaning and Reme are drawn to similar systems of client-server based streaming of video encoded into multiple different bitrate copies and because simply encoding one of the video streams a particular bitrate, such as the 300 kbps and 5 Mbps taught by Reme, would have been a simple and straightforward modification for a POSITA. (*Id.*).

E. SNQP-5: Obviousness over Leaning, Reme, and Allen

Claim 6 is rendered obvious by Leaning in combination with Reme and Allen.

1. Claim 6

This claim is rendered obvious by Leaning in combination with Reme and Allen. Claim 6 recites:

6. The system of claim 1, wherein the live event is a live sports event.
--

This claim depends from Claim 1. As set forth above in SNQP-4 (Section (VIII.D.1)), Leaning in combination with Reme teaches all limitations of Claim 1.

Allen teaches the additional subject matter of Claim 6 for the same reasons discussed above in SNQP-1 (Section VIII.A.3). (*See* Houh Decl., ¶ 190).

F. No Secondary Considerations of Non-Obviousness

Requester does not believe there are any secondary conditions of non-obviousness under *Graham* that would overcome the strong case of obviousness presented in this Request.

The first three *Graham* factors are discussed above for each SNQP, including the scope of the prior art, the prior art as compared to the claims, and the level of ordinary skill in the pertinent art.

For the last factor, secondary considerations, DISH cannot show any nexus to the claim language, and evidence it might adduce would be entitled to minimal weight. Indeed, in the Ogdon IPR, the PTAB determined that DISH's purported evidence of secondary considerations did not outweigh the other *Graham* factors because DISH had failed to establish a nexus, and its evidence was entitled either to "some weight, but not significant weight" (for commercial success) or "little to no weight" (for long-felt need/failure of others, unexpected results, copying, and industry praise). *Aylo Freesites Ltd v. DISH Technologies L.L.C.*, IPR2024-00146, Paper 57 at 57 (Claim 1), 69 (Claim 10), 74 (Claim 18), 75-76 (Claim 20) (PTAB Apr. 17, 2025).

Requester acknowledges that the ALJ in the ITC Investigation accepted DISH's argument that there was a presumption of a nexus between the claims that were asserted in the ITC Investigation and the Move Media Player (which was acquired by DISH) and ultimately found certain secondary considerations. (Ex. 9 (337-TA-1265 ID), 212-213). DISH argued that respondents conceded that the Move Media Player embodied the claimed invention because respondents argued that a public use of Move Media Player in 2005 was an invalidating use meeting each and every element of the asserted claims. (*Id.*, 212). The ALJ accepted this argument and also found that DISH's expert demonstrated that Move's success is tied to the unique characteristics of the claimed invention including "offering 'a smooth end user experience as the Move Media Player up-shifts and down-shifts in response to network and client CPU availability'" and streaming using "simple HTTP protocol transfer of media files from standard Web servers rather than deployment of expensive media servers," which reduce cost and complexity. (*Id.*, 213).

However, the ALJ's determination has no bearing here. First, Requester, who did not participate in the ITC investigation, does not make any claims that prior use of the Move Media

Player was an invalidating public use, and thus the ALJ’s findings regarding the ITC respondents’ concession that Move Media Player meets the claims does not apply to Requester.

Second, Requester disagrees that the Move Media Player has a nexus to the ’555 Patent because any of Move’s success is not tied to unique characteristics of the claimed invention. As the prior art discussed in the SNQPs above shows, the purportedly unique and successful aspects of the Move system that the ALJ relied on to find a nexus were already in existence in the prior art and thus cannot form the basis of any nexus to the claimed invention. *See Yita LLC v. MacNeil IP LLC*, 69 F.4th 1356, 1364 (Fed. Cir. 2023) (“[O]ur case law makes clear that objective evidence of nonobviousness lacks a nexus if it exclusively relates to a feature that was *known* in the prior art—not necessarily well-known”) (emphasis in original) (internal citations and quotations omitted).

More specifically, the purported “unique” claimed feature of “a smooth end user experience” that “up-shifts and down-shifts in response to network and client CPU availability,” was already present in the prior art. For example, Leaning discloses upshifting and downshifting quality of the stream in response to, for example, network congestion to ensure a smooth and uninterrupted stream. (*See, e.g., Leaning*, 8:24-26, 9:3-7, 9-11 (flowchart showing successive determinations to shift up or shift down), Claim 4 (“means operable to effect mode switching”), Claim 5 (switching to lower quality), Claim 6 (switching to higher quality), Claims 11-12). Notably, the PTAB has previously held at the institution stage of IPR petitions involving related patents that other prior art references not even relied on here show the allegedly unique features of Move. *E.g., Aylo Freesites Ltd v. DISH Technologies L.L.C.*, IPR2024-00043, Paper 8 at 40 (PTAB Apr. 16, 2024) (“Petitioner provides evidence showing that the allegedly unique features

of Patent Owner’s Move Media Player were known in Ogdon, undermining the ITC’s nexus analysis.”).

Third, ALJ determinations in general do not have preclusive effect on the USPTO. *See* MPEP § 2286(II).

In the Ogdon IPR, the PTAB acknowledged the different circumstances between the arguments raised in ITC Investigation and Requester’s arguments against secondary considerations and “[ou]nd the discussion in the Initial Determination to be of little moment.” *Aylo Freesites Ltd v. DISH Technologies L.L.C.*, IPR2024-00146, Paper 57 at 39 n.6 (PTAB Apr. 17, 2025).

In the Ogdon IPR, the PTAB determined that any presumption of nexus that might apply to the MOVE Media Player was rebutted, notwithstanding DISH’s arguments, expert testimony, documentary evidence, and a claim chart to Claim 10. For example, DISH’s documents vaunted a feature not claimed in the ’555 Patent—using multiple TCP connections between the client and the origin web server—which the PTAB determined was “critical” to MOVE’s technology. *Id.* at 42. The PTAB also determined that this critical unclaimed feature was claimed in a different patent owned by DISH, U.S. Patent No. 10,225,304, but not in claims of the ’555 Patent, further undercutting DISH’s assertion of nexus. *Id.* at 42-43 (citing *Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1375 (Fed. Cir. 2019)). The PTAB declined to minimize the importance of this feature, which DISH’s own documents extolled as the “secret” of MOVE’s technology. *Id.* at 43-44.

The PTAB also rejected DISH’s arguments asserting a direct nexus as “fatally flawed.” It determined that DISH’s alleged “unique characteristics” of the ’555 Patent, “actively adjusting

. . . video quality to the bandwidth available” and “delivering pieces of content progressively,” were already in the prior art, including Leaning. *Id.* at 45-46 (citing Leaning, code (57), 1:12-19).

The PTAB further addressed and largely dismissed DISH’s arguments as to multiple indicia of nonobviousness.

- Long-Felt Need/Failure of Others: The PTAB accorded DISH’s evidence “little to no weight,” including because the evidence showed a competitor’s product was fulfilling the need, no nexus was established, and adaptive bitrate streaming was already known in the art. *See id.* at 47-49.
- Unexpected Results: The PTAB accorded DISH’s evidence “little to no weight,” including because the evidence established that the MOVE Media Player’s streaming video quality, while purportedly at a better quality or degree, was not of a “different and unexpected kind,” and no nexus was established. *See id.* at 49-50 (quoting *Iron Grip Barbell Co. v. USA Sports, Inc.*, 932 F.3d 1317, 1322 (Fed. Cir. 2004)).
- Commercial Success: The PTAB accorded DISH’s evidence “some weight, but not significant weight” based on some initial commercial success but a lack of nexus to the claimed invention, with evidence of licenses to adaptive bitrate patents accorded little weight. *See id.* at 50-52.
- Copying: The PTAB accorded DISH’s evidence “little to no weight,” including because evidence of alleged copying by Microsoft and Apple did not pertain to the claims of the ’555 Patent, either at all or except for adaptive bitrate technology, which was already in the prior art. *See id.* at 53-54.

- Industry Praise: The PTAB accorded DISH's evidence "little to no weight," including lack of nexus because praised features like adaptive bitrate streaming and dividing the data stream into slices were already in the prior art, and other praised features like using a standard web server were unclaimed. The PTAB additionally found no nexus for a 2020 Emmy Award to SlingTV, as well as for other awards conferred to MOVE Networks as a business entity but not specifically relating to claimed technology. The PTAB further found that evidence of "user" statements was not shown to be representative of the views of the industry as a whole and thus had little evidentiary value. *See id.* at 54-56.

Thus, DISH has not shown any secondary considerations that would overcome the strong case of obviousness presented in this Request.

IX. TIMING FOR REQUESTING *EX PARTE* REEXAMINATION UNDER 35 U.S.C. § 302

The filing of this Request for *Ex Parte* Reexamination is timely given the '555 Patent expired on April 28, 2025, less than 6 years before the filing of this Request. *See* MPEP § 2211; 35 U.S.C. § 286.

X. COMMUNICATIONS TO THIRD PARTY REQUESTER

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XI. CERTIFICATION THAT THE ESTOPPEL PROVISIONS OF 35 U.S.C. § 315(e)(1) OR 35 U.S.C. § 325(e)(1) DO NOT PROHIBIT REQUESTER FROM FILING THIS *EX PARTE* REEXAMINATION REQUEST

In accordance with 37 C.F.R. § 1.510(b)(6), Requester hereby certifies that the estoppel provisions of 35 U.S.C. § 315(e)(1) or 35 U.S.C. § 325(e)(1) do not prohibit Requester from filing this *ex parte* reexamination request.

As explained in Section IV.A above, Requester previously filed two petitions for IPR. Its first petition, in the Ogdon IPR, did **not** challenge any of the Reexam Claims. Its second petition, in the Leaning IPR, did challenge Reexam Claims 2, 12, and 21, but did not challenge Reexam Claim 6, and in any event, the Leaning IPR was discretionarily denied institution. Thus, there was no final written decision on the Reexam Claims. As such, Requester is not estopped on the Reexam Claims (Claims 2, 6, 12, and 21) here because there was no final written decision for the Reexam Claims. *See Uniloc 2017 LLC v. Facebook Inc.*, 989 F.3d 1018, 1030 (Fed. Cir. 2021) (“[W]e see no error in the Board’s determination that the Apple IPR final written decision, which did not address claim 7, does not estop Facebook from maintaining its challenge in this proceeding to claim 7. Section 315 explicitly limits the estoppel to the claims previously challenged and for those proceedings that resulted in a final written decision Because claim 7 was not at issue in the Apple IPR, the plain language of the statute supports the conclusion that Facebook is not estopped from challenging this claim in this proceeding, regardless of its dependency on claim 1.”) (citations omitted); 35 U.S.C. § 315(e).

XII. THE OFFICE SHOULD NOT DISCRETIONARILY DENY THIS REQUEST PURSUANT TO 35 U.S.C. § 325(d)

As explained above, there are substantial new questions of patentability with respect to the Reexam Claims. The Office should not discretionarily deny this Request.

35 U.S.C. § 325(d) provides that:

[D]uring the pendency of any post-grant review under this chapter, if another proceeding or matter involving the patent is before the Office, the Director may determine the manner in which the post-grant review or other proceeding or matter may proceed, including providing for the stay, transfer, consolidation, or termination of any such matter or proceeding. In determining whether to institute or order a proceeding under this chapter, chapter 30, or chapter 31, the Director may take into account whether, and reject the petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office.

35 U.S.C. § 325(d).

The Office applies a two-part framework when evaluating whether or not discretionary denial under § 325(d) is appropriate. Specifically, the Office considers:

- (1) whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office; and
- (2) if either condition of first part of the framework is satisfied, whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims.

Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH, IPR2019-01469, Paper 6 at 8 (PTAB Feb. 13, 2020) (precedential) (“*Advanced Bionics*”).

In considering the two-part *Advanced Bionics* framework, the Office may also consider the factors discussed in *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 (PTAB Dec. 15, 2017) (precedential as to § III.C.5, first para.; informative) (“*Becton Dickinson*”). *Becton Dickinson* identifies six non-exhaustive factors:

- (a) the similarities and material differences between the asserted art and the prior art involved during examination;
- (b) the cumulative nature of the asserted art and the prior art evaluated during examination;

- (c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection;
- (d) the extent of the overlap between the arguments made during examination and the manner in which petitioner relies on the prior art;
- (e) whether petitioner has pointed out sufficiently how the examiner erred in its evaluation of the asserted prior art; and
- (f) the extent to which additional evidence and facts presented in the petition warrant reconsideration of the prior art or arguments.

Id. at 17-18.

In the reexamination context, the Trial Practice Guide explains that “the Office may not necessarily consider these [*Becton Dickinson*] factors” when deciding whether to order reexamination as “[a]n *ex parte reexamination* proceeding is not a trial proceeding, and the considerations with respect to issues involving 35 U.S.C. § 325(d) may differ due to the different nature of an *ex parte reexamination* proceeding.” See *Patent Trial and Appeal Board Consolidated Trial Practice Guide* (Nov. 2019). To the extent the Office wishes to consider the *Becton Dickinson* factors, they are addressed below.

A. *Advanced Bionics Part 1*

With respect to Part 1 of *Advanced Bionics*, there is no other Office proceeding involving the Reexam Claims. As explained in Section IV.A, the Ogdon IPR, challenging *different claims* of the ’555 Patent using Ogdon as a primary reference, was instituted and reached a final written decision. And the Leaning IPR, challenging Reexam Claims 2, 12, and 21 (but not Reexam Claim 6), using primary reference Leaning, was discretionarily denied under *General Plastic without reaching the merits or § 325(d)*.

Further, as explained in Section VI.A.2-5, none of the references in the SNQPs herein were before the Office during prosecution of the ’555 Patent or its parent applications. Neither

Brown nor Reme were cited on the face of the '555 Patent and neither are cumulative of any art considered by the Examiner.

Neither Leaning nor Allen were cited on the face of the '555 Patent. However, a different (unrelated) patent publication to Leaning, US 2004/0030547, was cited during prosecution of related applications concurrently with hundreds of other references, but neither Applicant nor the Examiner provided any analysis of US 2004/0030547 or applied it in any rejection or referenced it in any response. *Supra* Section VI.A.2. And a different (related) Allen publication, US 2004/0117427, was cited on the face of the '555 Patent, but neither Applicant nor the Examiner provided any analysis of US 2004/0117427 or applied it in any rejection or referenced it in any response. *Supra* Section VI.A.3.

Even if DISH attempts to argue under *Becton Dickinson* factors (a) and (b) that the PTAB elsewhere found that Leaning is substantially similar to US 2004/0030547 or that Allen is substantially similar to US 2004/0117427, this does not change the fact that at least the combination of Leaning with Brown and Leaning with Reme was not considered by the Office. Additionally, under *Becton Dickinson* factor (d) there is no overlap between the arguments made during examination and the manner in which Requester relies on Leaning. Leaning was not cited or used in a rejection and no comparable prior art was cited or discussed during prosecution. Part 1 of *Advanced Bionics* is not satisfied.

B. *Advanced Bionics Part 2*

Under Part 2 of *Advanced Bionics*, the Examiner clearly erred, and *Becton Dickinson* factors (c), (e) and (f) unquestionably support institution. *See Ecto World, LLC v. RAI Strategic Holdings, Inc.*, IPR2024-01280, Paper 13 at 5-7 (May 19, 2025) (precedential as to § A). Despite its clear strength as a primary invalidating reference, Leaning was not a basis for a rejection

during examination. The examiner made no art-based rejections during prosecution and simply issued a notice of allowance with no reasoning after Applicant overcame double patenting rejections. For example, the Examiner overlooked specific teachings that impact the patentability of the Reexam claims including the strong teachings of Leaning regarding the non-overlapping “sub-files”—which are analogous to the claimed “streamlets”—where each corresponding sub-file across versions is encoded to a different rate and client-side intelligence in a player requests the next sub-file from ordinary web servers based on repeated bandwidth determinations. Leaning discloses precisely what the Examiner indicated in related applications was allowable over the prior art. Part of the Examiner’s error in overlooking Leaning, to the extent Leaning’s disclosures were also present in the cited US 2004/0030547, is undoubtedly that US 2004/0030547 in its Title, Abstract, claims, and cover figure relate specifically to audio encoding. (*Compare* US 2004/0030547, Title (“Encoding Audio Signals”), Abstract (“A system for transmitting audio signals . . .”), Claim 1 (“A method of encoding audio signals . . .”), Claim 4 (“A method of transmitting audio signals . . .”), Claim 5 (“A method of encoding input audio signals . . .”); *with* Leaning, Title (“Transmission and Reception of Audio and/or Video Material”), Abstract (“Delivery of recorded audio or video material . . .”), Claim 1 (“A terminal for playing audio or video material . . .”), Claim 11 (“A method of transmitting digitally coded audio or video material . . .”). Thus, to the extent there is overlap between Leaning and US 2004/0030547, the Examiner, while considering US 2004/0030547 among the hundreds of other cited IDS references, overlooked the strong relevant teachings of Leaning, including the non-overlapping sub-files encoded at different rates, that do not show up in the Title, Abstract, claims, or cover figure of US 2004/0030547.

Of course, the most compelling evidence of examiner error is that the PTAB has instituted four IPRs of related patents using Leaning as the primary reference: IPR2024-00917, -00918, -00919, -00940. The Office should grant this Request as there are substantial new questions of patentability with respect to the Reexam Claims and there is no basis to deny under 35 U.S.C. § 325(d).

XIII. CONCLUSION

For at least the reasons set forth in this Request, Requester respectfully submits substantial new questions of patentability have been raised as to Reexam Claims 2, 6, 12, and 21 of the '555 Patent. The claims are unpatentable over the prior art documents cited in and provided with this Request under at least 35 U.S.C. § 103. If necessary, please charge any required fees that are not included herewith to our Deposit Account No. 22-0261.

Requester respectfully requests that the USPTO conduct reexamination of Reexam Claims 2, 6, 12, and 21 of the '555 Patent, and do so not only with “special dispatch,” but also with “priority over all other cases” in accordance with MPEP § 2261.

Date: May 30, 2025

Respectfully submitted,

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