

Aylo Freesites Ltd
v.
DISH Technologies L.L.C.
Petitioner Aylo's Demonstratives

Case No. IPR2024-00940

Before Judges Thu A. Dang, Michelle N. Wormmeester, and John A. Hudalla

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE



Summary of Key Disputes

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Summary of Key Disputes

There are three key disputes:

1. Whether the “arranging” limitation requires streamlets to be received out of order, as argued by DISH. **NO.** Even if it does, whether Leaning teaches this. **YES.**
2. Whether the Petition adequately addresses “to achieve continuous presentation.” **YES.**
3. Whether the phrase “to achieve continuous presentation” requires there to be no interruptions in playback, as argued by DISH. **NO.** Even if it does, whether Leaning teaches this. **YES.**

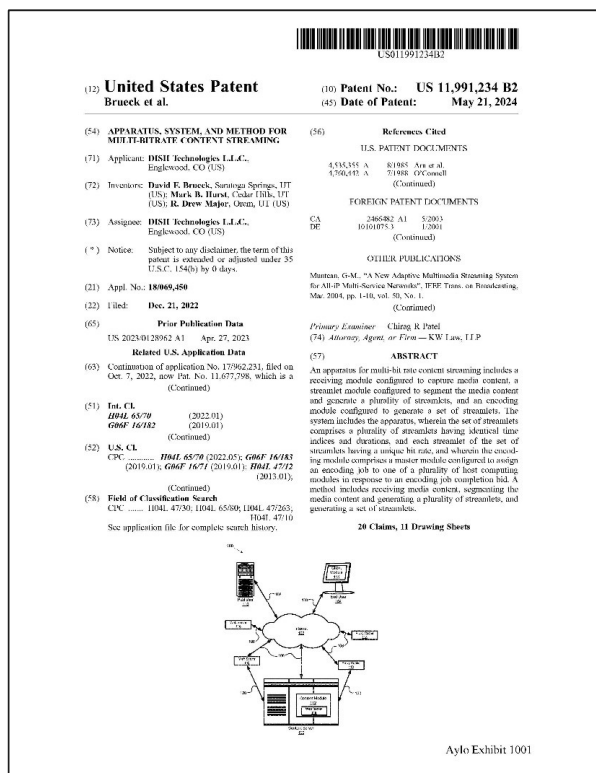


Overview of Challenged DISH Patent

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Overview of Challenged DISH Patent



EX1001 ('234 Patent)

- U.S. Patent No. 11,991,234
- Inventors: David F. Brueck, Mark B. Hurst, R. Drew Major
- Date of Patent: May 21, 2024
- Earliest possible priority date: April 30, 2004
- Directed to adaptive-bitrate (“ABR”) streaming over the Internet. EX1001 at 1:35-38

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Video Stored as Sets of “Streamlets” with Varying Bitrates

- A “set” of streamlets is a “group of streamlets having identical time indices and durations but varying bitrates.” EX1001 ('234 Patent) at 7:60-62.
- “The set 306a includes encoded streamlets 304 having **low**, **medium**, and **high** 204, 206, 208 bitrates.” EX1001 ('234 Patent) at 7:64-65.

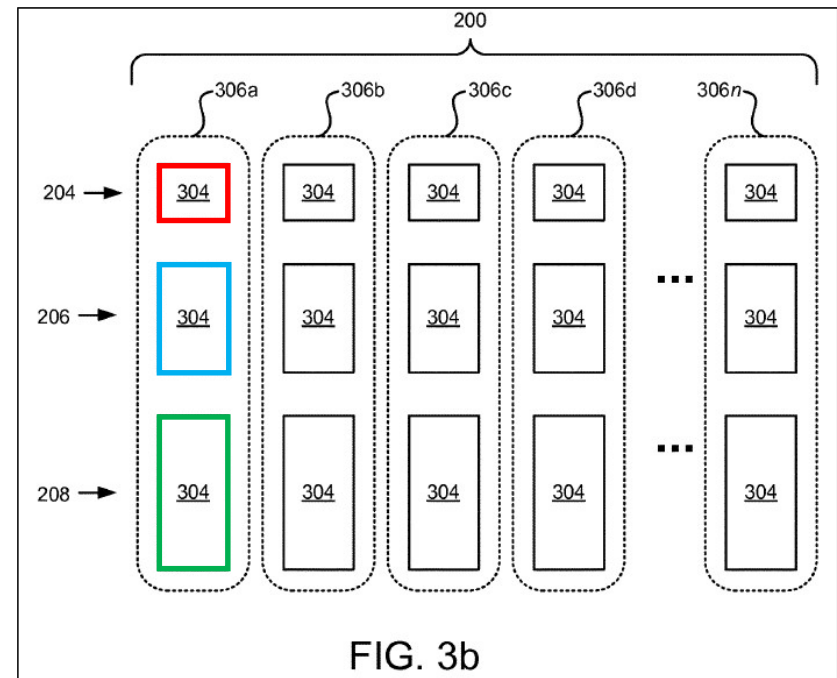


FIG. 3b

EX1001 ('234 Patent) at FIG. 3b (annotated)

A Client Requests Lower or Higher Quality Streamlets From a Server Based On Bandwidth

- Client **114** makes requests for streamlets **304** from web server(s) **116**. EX1001 ('234 Patent) at 9:34-44.
- Client **114** makes such requests for “lower or higher quality streams based upon continuous observation of time intervals between successive receive times of each requested streamlet.” EX1001 ('234 Patent) at 13:22-30.
- “[T]he agent controller module **702** requests streamlets **304** from the streamlet cache module **704** and arranges the received streamlets **304** in a staging module **709**.” EX1001 ('234 Patent) at 13:34-37. Streamlets are named **0, 1, 2, 3, 4, etc.** and arranged in order of ascending playback time. *Id.*

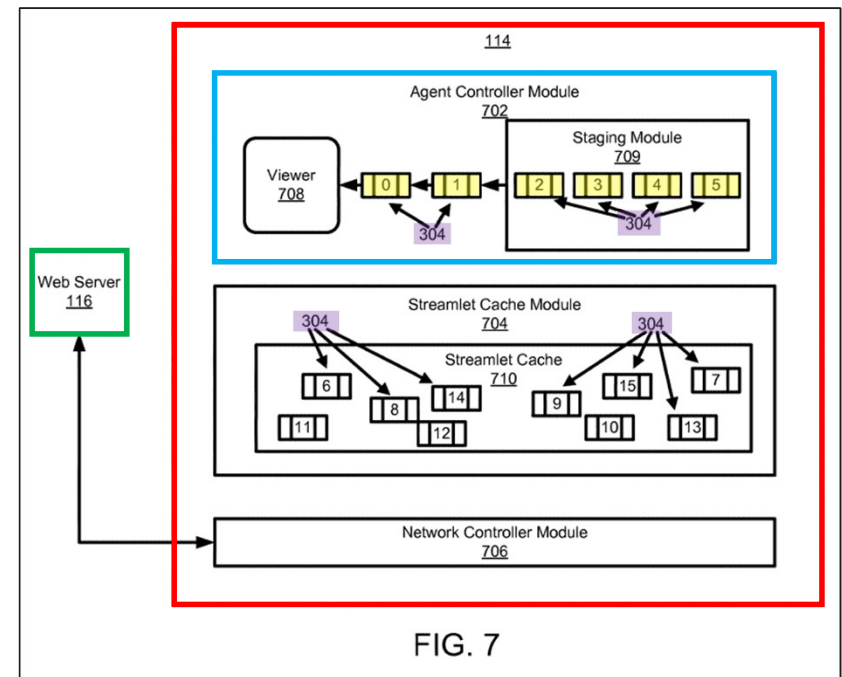


FIG. 7

EX1001 ('234 Patent) at FIG. 7 (annotated)



Unpatentability Grounds

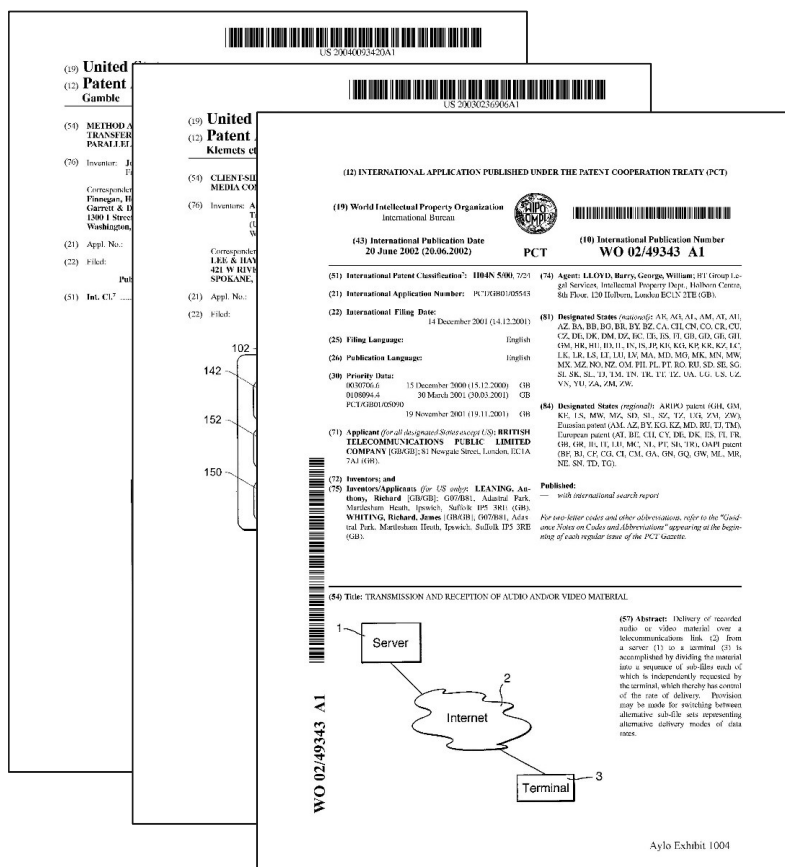
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Unpatentability Grounds

'234 Patent Claims	Grounds
1-15 and 17-20	Leaning (§103)
1-15 and 17-20	Leaning and Klemets (§103)
16	Leaning (with or without Klemets) and Gamble (§103)

Prior Art References



Leaning
International P.C.T. Publication
WO 2002049343
Published: June 20, 2002

Klemets
U.S. Patent Publication
No. 2003/0236906
Published: Dec. 25, 2003

Gamble
U.S. Patent Publication
No. 2004/0093420
Published: May 13, 2004

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Leaning

- Discloses streaming media from a server to a client by dividing a video into “sub-files” and switching between alternative sub-file sets depending on data rates. EX1004 (Leaning) at Abstract.
- The client makes repeated assessments relating to network characteristics and can request a next sub-file of a higher or lower rate based on these assessments. EX1004 (Leaning) at 8:1-9:8.
- “In the case of a rate switch, 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.” EX1004 (Leaning) at 12:16-18.

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See Pet. at 15-16, 35; Reply at 9

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(72) Inventors; and
(75) Inventors/Applicants (for US only): LEANING, Anthony, Richard [GB/GB]; G07/B81, Adastral Park, Martlesham Heath, Ipswich, Suffolk IP5 3RE (GB).
WHITING, Richard, James [GB/GB]; G07/B81, Adastral Park, Martlesham Heath, Ipswich, Suffolk IP5 3RE (GB).

Published:
— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: TRANSMISSION AND RECEPTION OF AUDIO AND/OR VIDEO MATERIAL.

(57) Abstract: 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.

WO 02/49343 A1

Aylo Exhibit 1004

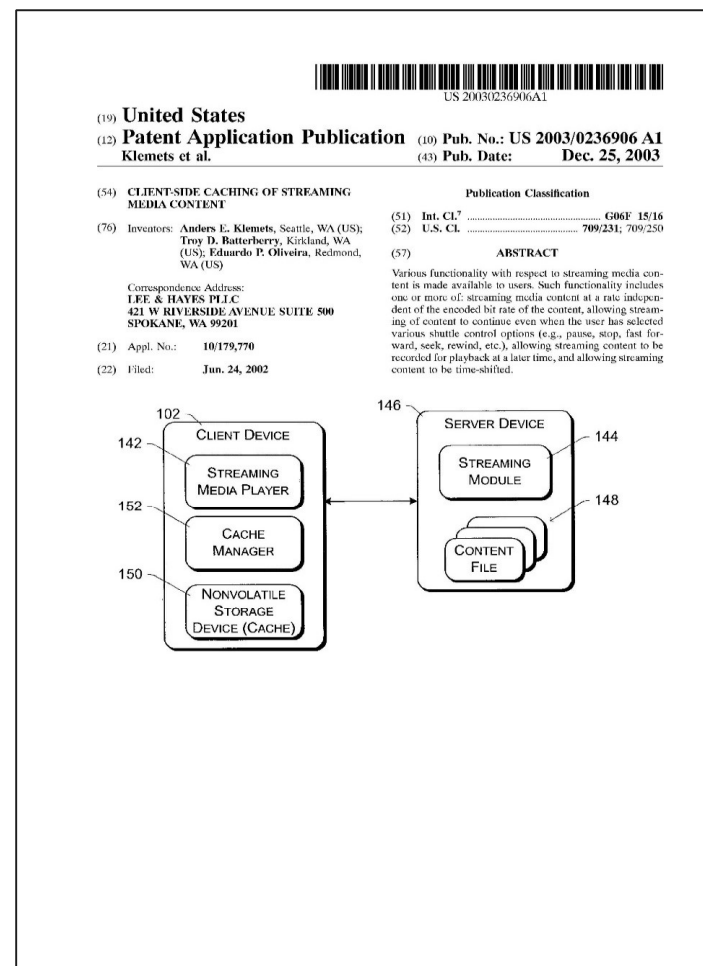
EX1004 (Leaning) Slide 11

Klemets

- Discloses streaming media segmented into different “pieces” of content (e.g., every five minutes of content is a piece) and “[e]ach piece of media content may include multiple streams . . . typically at a particular encoded bit rate.” EX1006 (Klemets) ¶¶ [0036]-[0038].
- “Multiple versions of the same” content “allow[] selection of different combinations of these streams for playback by [a client] media player.” EX1006 (Klemets) ¶ [0039].
- Discloses grouping multiple pieces of content together in a “playlist” such that each “piece” (e.g., 20 songs in a playlist) is streamed in succession. EX1006 (Klemets) ¶ [0041].

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EX1006 (Klemets)

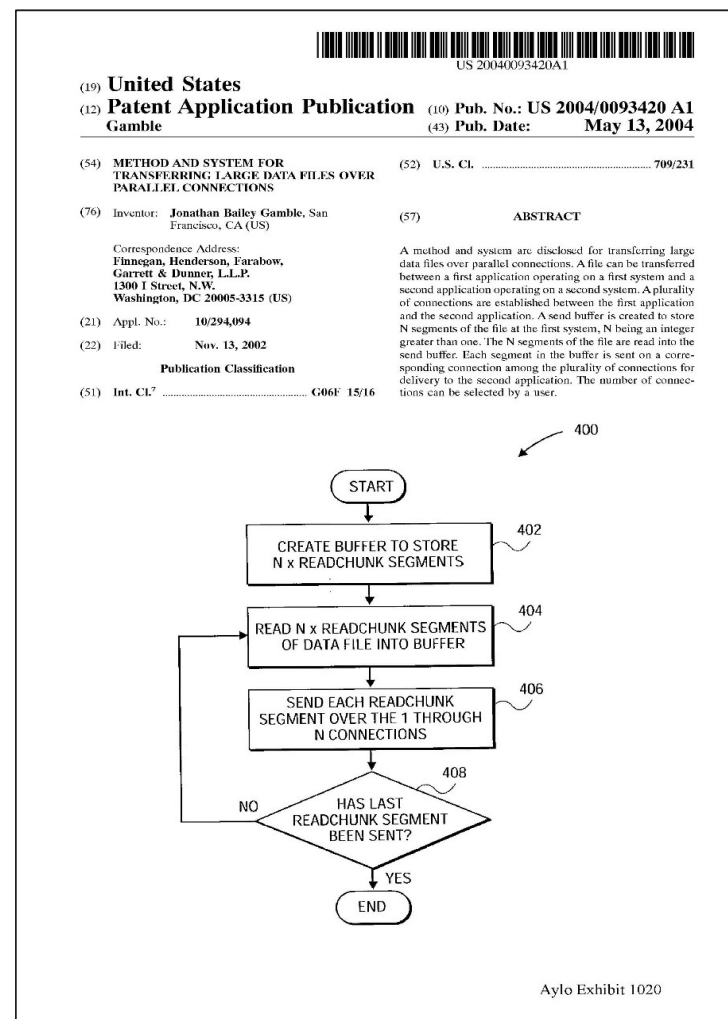
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Gamble

- Discloses transferring files over a plurality of parallel TCP connections in a client-server architecture. EX1020 (Gamble) at Abstract, ¶¶ [0034], [0050].
- Discloses a client application for receiving multiple subparts of files over a plurality of parallel TCP connections from a server. EX1020 (Gamble) ¶¶ [0034]-[0040], [0050]-[0052].
- Discloses implementing TCP congestion protocols for the client. EX1020 (Gamble) ¶ [0052].

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EX1020 (Gamble) Slide 13



Exemplary Claims and Disputed Limitations

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Exemplary Claims and Disputed Limitations

'234 Patent Independent Claim 1	
1[Pre]	An end user station for adaptive-rate content streaming of digital content comprising:
1[A][1]	a client module configured to be connected to a network having at least one server and further configured to request digital content over the network via at least one transmission control protocol (TCP) connection,
1[A][2]	wherein at least two different copies of the digital content are each encoded at different bit rates and stored on the at least one server,
1[A][3]	wherein each copy of the digital content is divided into a plurality of streamlets, each of the plurality of streamlets of a corresponding copy comprising a different portion of the digital content during presentation,
1[A][4]	wherein corresponding streamlets across the at least two different copies comprise the same corresponding portions of the digital content during presentation,
1[A][5]	and wherein the client module streams the digital content by:
1[B]	requesting a first streamlet from the at least one server;
1[C][1]	automatically requesting from the at least one server subsequent portions of the digital content by requesting for each subsequent portion of the streamlets from the different copies of the digital content dependent upon successive determinations by the client module to change a currently requested bit rate to a higher or lower bit rate, the automatically requesting including

Exemplary Claims and Disputed Limitations

'234 Patent Independent Claim 1	
1[C][2]	repeatedly generating a factor indicative of a current ability to receive digital content at a rate sufficient for presenting the digital content as the digital content is received;
1[D]	making the successive determinations to change the digital content bit rate based on the factor using the streamlets of one of the different copies of the digital content having the highest bit rate determined receivable for presentation so that the client module selects a higher bit rate one of the different copies when the factor is greater than a first threshold and selects a lower bit rate one of the different copies when the factor is less than a second threshold; and
1[E]	arranging the streamlets requested from the at least one server in order of ascending presentation time for output to a presentation device.

'234 Patent Dependent Claim 9	
9	The end user station of claim 1, wherein the client module is further configured to transmit at least one virtual timeline request to retrieve a virtual timeline corresponding to the digital content and to receive the virtual timeline from the at least one server; and arrange the streamlets requested from the at least one server using the virtual timeline .

Exemplary Claims and Disputed Limitations

'234 Patent Independent Claim 12	
12[Pre]	A method executable by a client device to output rate-adaptive streams received via at least one transmission control protocol (RCP) [sic] connection with at least one server over a network, the method comprising:
12[A][1]	receiving, by the client device, digital content from the at least one server via the at least one TCP connection over the network,
12[A][2]	wherein multiple different copies of the digital content encoded at different bit rates are stored as individually-requestable portions on the at least one server,
12[A][3]	wherein each of the individually-requestable portions of a corresponding copy of the digital content is a different portion of the digital content during presentation,
12[A][4]	wherein the individually requestable portions across the different copies yield the same portions of the digital content upon presentation, and wherein the receiving comprises:
12[B]	requesting by the client device a plurality of sequential individually-requestable portions of one of the copies from the at least one server;
12[C][1]	automatically requesting by the client device from the at least one server subsequent portions of the digital content by requesting for each such portion one of the individually-requestable portions from one of the copies dependent upon successive determinations by the client device to change a requested bit rate to a higher or lower bit rate one of the different copies, the automatically requesting including
12[C][2]	repeatedly generating a factor indicative of a current ability to receive the digital content at a rate sufficient for presenting the digital content as the digital content is received, individually-requestable wherein the factor relates to a performance of the network; and

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Exemplary Claims and Disputed Limitations

'234 Patent Independent Claim 12

12[D]	making the successive determinations whether to change the requested bit rate based on the factor to achieve continuous presentation of the digital content using the individually-requestable portions of the highest bit rate one of the copies determined receivable at that time at a rate sufficient for presenting the digital content as the individually-requestable portions of the digital content are received, wherein the making of the successive determinations to change the requested bit rate comprises: requesting a subsequent individually-requestable portion from a higher bit rate one of the different copies than a currently requested one of the different copies when the at least one factor is greater than a first threshold; and requesting a subsequent individually-requestable portion from a lower bit rate one of the different copies than the currently requested one of the different copies when the at least one factor is less than a second threshold; and
12[E]	arranging the individually-requestable portions requested from the at least one server in order of ascending presentation time for output to a presentation device.

'234 Patent Dependent Claim 16

16	The method of claim 12, wherein the at least one TCP connection comprises a plurality of different TCP connections, and wherein the requesting of the plurality of sequential individually-requestable portions includes requesting sub-parts of the individually-requestable portions over different ones of the plurality of different TCP connections , and wherein the arranging includes reassembling the individually-requestable portions from the requested sub-parts.
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Leaning Teaches “Arranging the Streamlets” (Limitations 1[E] and 12[E])

Leaning Teaches “Arranging the Streamlets”

'234 Patent Independent Claim 1

1[E]	arranging the streamlets requested from the at least one server in order of ascending presentation time for output to a presentation device.
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Not in Dispute:

- Leaning teaches naming each sub-file indicative of their sequence (i.e., 1, 2, 3, 4, etc.).
- Leaning teaches requesting each sub-file individually in order of ascending playout time.
- Leaning teaches decoding and saving each sub-file in the buffer.
- Leaning teaches playing sub-files using their file names in order of ascending playback time.

The Dispute:

- Whether the “arranging” limitation **requires** streamlets to be received out of order, as argued by DISH. **NO.**
- Even if it does, whether Leaning teaches this. **YES.**

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DISH Conveniently Omits an “if” to Wrongly Suggest “There Is No Expectation” of Receiving Sub-Files Out of Order

- DISH argues:

According to Leaning, “[i]t matters little where the boundaries between the sub-files are located” because “there 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*.” EX1004, 12:9-11. That there is “no expectation” of receiving sub-files in any order other than their “original sequence” at Leaning’s user terminal confirms

POR at 25

- But Leaning states:

First, it should be noted that if (as in the first version described above), there is no expectation that
10 a sub-file will be followed by a sub-file other than that which immediately follows it in the original
sequence, then it matters little where the boundaries between the sub-files are located. In that case

EX1004 (Leaning) at 12:9-11

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The Claims do not Require Receiving Streamlets Out of Order and Rearranging Them

- The claims simply recite: “arranging the [streamlets/individually-requestable portions] requested from the at least one server in order of ascending presentation time for output to a presentation device.” Leaning does this. *E.g.*, EX1004 (Leaning) at 5:23-6:2.
- Leaning resembles an embodiment of the '234 Patent, where streamlets are received and named 1, 2, 3, 4, etc. in order of ascending playback time.

module 709. The staging module 709 may be configured to arrange the streamlets 304 in order of ascending playback time. In the depicted embodiment, the streamlets 304 are numbered 0, 1, 2, 3, 4, etc. However, each streamlet 304 may be identified with a unique filename.

EX1001 ('234 Patent) at 13:34-41

The Named Inventor and Founder of MOVE Confirmed Leaning's “Arranging” Is Covered by the Claims



Drew Major

Q. Right. So if a client requests streamlets individually, one at a time, in order of ascending playout time, is that covered by your invention?

...

[A.] Yeah, that's one way it can be -- it can be used, yes.

EX1025 (Major Depo. Tr.) at 65:8-14

Leaning Teaches Arranging Streamlets Even Under DISH's Interpretation Where Streamlets Are Not Received In Order

5 The sub-file naming convention used here, of a simple fixed length sequence of numbers starting with zero, is preferred as it is simple to implement, but any naming convention can be used provided the player program either contains (or is sent) the name of the first sub-file and an algorithm enabling it to calculate succeeding ones, or alternatively is sent a list of the filenames.

EX1004 (Leaning) at 6:6-8

30 There may be a danger of the playing operation running slightly faster or slower than the recording operation. To guard against the former it may be arranged that the player program checks each sub-file it receives to ascertain whether it is marked with a later time than the previous one; if not the sub-file is discarded and repeated requests made (perhaps three times) followed by a check of the index file if these requests are unsuccessful.

EX1004 (Leaning) at 21:30-22:3



Leaning (With or Without Klemets) Teaches Arranging Using the Virtual Timeline (Claim 9)

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Leaning (With or Without Klemets) Teaches Arranging Streamlets Using a Virtual Timeline

'234 Patent Dependent Claim 9

9	The end user station of claim 1, wherein the client module is further configured to transmit at least one virtual timeline request to retrieve a virtual timeline corresponding to the digital content and to receive the virtual timeline from the at least one server; and arrange the streamlets requested from the at least one server using the virtual timeline .
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The parties have the same dispute with respect to “arranging” as in limitation 1[E] in addition to: whether Leaning teaches “using the virtual timeline.” **YES.**

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Leaning Teaches Using a Virtual Timeline

Leaning's menu:

It is also convenient that the web server stores one or more (html) menu pages (e.g. menu.htm) containing a list of recordings available, with hyperlinks to the corresponding link pages.

EX1004 (Leaning) at 4:1-3

Leaning's index:

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 may explicitly request this file or just specify the directory: most servers default to index.htm if a filename is not specified.) It then begins to request the audio sub-files as described earlier, from 10 the first-mentioned "rate" directory in the index file – viz. 024k_11_s (or the terminal could

EX1004 (Leaning) at 8:6-10

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Pet. at 43-44; Reply 18

DISH Is Incorrect that Nothing In Leaning's Menu or Index File Can Be Used to Determine How Sub-Files Will Be Arranged

30 There may be a danger of the playing operation running slightly faster or slower than the recording operation. To guard against the former it may be arranged that the player program checks each sub-file it receives to ascertain whether it is marked with a later time than the previous one: if not the sub-file is discarded and repeated requests made (perhaps three times) followed by a check of the index file if these requests are unsuccessful.

EX1004 (Leaning) at 21:30-22:3

DISH Is Incorrect that Nothing In Leaning's Menu or Index File Can Be Used to Determine How Sub-Files Will Be Arranged

It is also convenient that the web server stores one or more (html) menu pages (e.g. menu.htm) containing a list of recordings available, with hyperlinks to the corresponding link pages.

EX1004 (Leaning) at 4:1-3

- 25 2. The user selects one of the hyperlinks within the menu page which causes the browser to retrieve from the server, and display, the link page for the desired recording - in this example the file mp3_bwv565_link.htm. The actual display of this page is unimportant (except that it

EX1004 (Leaning) at 4:24-26

DISH Is Incorrect that Nothing In Leaning's Menu or Index File Can Be Used to Determine How Sub-Files Will Be Arranged

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 may explicitly request this file or just specify the directory: most servers default to index.htm if a filename is not specified.) It then begins to request the audio sub-files as described earlier, from the first-mentioned "rate" directory in the index file – viz. 024k_11_s (or the terminal could

EX1004 (Leaning) at 8:6-10

starting with zero, is preferred as it is simple to implement, but any naming convention can be used provided the player program either contains (or is sent) the name of the first sub-file and an algorithm enabling it to calculate succeeding ones, or alternatively is sent a list of the filenames.

EX1004 (Leaning) at 6:6-8

Klemets Teaches Using a Virtual Timeline

Klemets' playlist:

[0041] Multiple pieces of content may also be grouped together in a play list, which is a list of one or more items each of which is a particular piece of content to be streamed. These different pieces of content can be selected (e.g., by the user or by some other party) to be grouped together in a play list, allowing a user to select all of them for rendering simply by selecting the play list. By way of example, a user may select twenty of his or her favorite songs to be part of a play list, and subsequently have those songs played back to him or her by selecting playback of the play list.

EX1006 (Klemets) at ¶ [0041]

[0068] Additionally, with play lists, situations can arise where streaming media player 142 indicates to streaming module 144 that the player is ready for the next piece of content in the play list. This indicating can be accomplished by communicating a “stream next entry” command to streaming module 144, or alternatively by simply having the current piece of content streamed from streaming module

EX1006 (Klemets) at ¶ [0068]



Leaning Teaches “to Achieve Continuous Presentation” (Limitation 12[D])

Leaning Teaches “to Achieve Continuous Presentation”

12[D]	making the successive determinations whether to change the requested bit rate based on the factor to achieve continuous presentation of the digital content using the individually-requestable portions of the highest bit rate one of the copies determined receivable at that time at a rate sufficient for presenting the digital content as the individually-requestable portions of the digital content are received, wherein the making of the successive determinations to change the requested bit rate comprises: requesting a subsequent individually-requestable portion from a higher bit rate one of the different copies than a
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Not in Dispute:

- DISH does not dispute that Leaning discloses every element of limitation 12[D] except “to achieve continuous presentation.”

The Dispute:

- Whether the Petition adequately addresses “to achieve continuous presentation.” **YES.**
- Whether the phrase “to achieve continuous presentation” requires there to be no interruptions in playback, as argued by DISH. **NO.**
- Even if it does, whether Leaning teaches this. **YES.**

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The Petition Adequately Addresses “to achieve continuous presentation”

- The fact that claim 1 does not recite “to achieve continuous presentation” is irrelevant. The Leaning teachings relied on in claim 1 also cover the limitation. The Federal Circuit has expressly approved such cross-referencing.



But the Board in this case did not consider or rely on a new theory absent from the petition. The petition identified, via cross-reference, that its prior art analysis on limitation [1.6] equally applied to limitations [5.8] and [7.8]. . . . The Board thus properly adhered to the petition’s theory for how Wong teaches limitations [5.8] and [7.8]

Voice Tech Corp. v. Unified Pats., 110 F.4th 1331, 1338 (Fed. Cir. 2024)

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 14

DISH Did the Same Cross-Referencing In Its District Court Litigation

- In its infringement chart in the parallel district court action, DISH did not separately address the “to achieve continuous presentation” limitation in claim 12 but instead cross-referenced to its evidence for claim 1.

*12[i] making the successive determinations whether to change the requested bit rate based on the factor **to achieve continuous presentation** of the digital content using the individually-requestable portions of the highest bit rate one of the copies determined receivable at that time at a rate sufficient for presenting the digital content as the individually-requestable portions of the digital content are received,*

As shown above in elements 1[f]-[i], and 12[f]-[h], which are incorporated fully herein, the limitations of this claim are met. See §§ A.1[f]-[i]; §§ L.12[f]-[h].

EX1029 (DISH '234 Patent Claim Chart)

Aylo Must Be Given the Opportunity to Respond to Post-Institution Claim Constructions

- DISH did not raise any claim-construction or merits-based arguments in its POPR, but instead raised its interpretation for the first time in its POR. Aylo must be given the opportunity to respond.



“We hold that where a patent owner in an IPR first proposes a claim construction in a patent owner response, a petitioner must be given the opportunity in its reply to argue and present evidence of anticipation or obviousness under the new construction, at least where it relies on the same embodiments for each invalidity ground as were relied on in the petition.”

Axonics, Inc. v. Medtronic, Inc., 75 F.4th 1374, 1384 (Fed. Cir. 2023)

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 15-16

A Reply Is Permitted to Respond to Arguments Raised in the POR or Expand Upon Arguments Made in the Petition



“As we have regularly held, ‘the petitioner in an inter partes review proceeding may introduce new evidence after the petition stage if the evidence is a legitimate reply to evidence introduced by the patent owner.’”

Apple Inc. v. Andrea Elecs. Corp., 949 F.3d 697, 707 (Fed. Cir. 2020)

“[W]e have held that a reply may be proper if it is responsive and simply expands on previously raised arguments.”

Rembrandt Diagnostics, LP v. Alere, Inc., 76 F.4th 1376, 1384 (Fed. Cir. 2023)

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 15-16; Paper 54 (Opp. to MTS) at 2-3

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Each of the Purportedly “New” Arguments Responds to DISH’s Arguments or Expands on the Petition

- That clearing Leaning’s buffer is optional is rooted in the petition and directly responds to DISH’s argument that Leaning clears the buffer on every rate switch. Pet. at 31 (citing EX1004 at 15:3-8); POR at 12-17, 19-20.
- Decoding in software and encoding with I-frames are rooted in the petition and directly respond to DISH’s argument that the encoding in Leaning must lead to discontinuities. Pet. at 20 (citing EX1004 at 16:6-10); POR at 12-18.
- The playout time and “playing out” the buffer arguments are rooted in the petition and directly respond to DISH’s argument that Leaning purges the buffer on every rate switch and the client must wait until 10 seconds of video are downloaded. Pet. at 24-25 (citing EX1004 at 12:8-34); POR at 9, 12.
- Arranging sub-files based on play time rather than the file name directly responds to DISH’s argument that Leaning only discloses storing files in the order they are received. POR at 24.

There is No Support for DISH's Construction of "to achieve continuous presentation"

- DISH's argument that Leaning does not invalidate requires the claim language to mean there can be no interruptions in playback.
- But "to achieve continuous presentation," or even "continuous presentation," does not appear anywhere in the specification and nothing suggests there can be no interruptions in playback.
- The ITC did not construe the term, and its opinion only supports Aylo's position that the claim language is aspirational.

the factor to achieve continuous playback of the video." Thus, "the current ability to sustain the streaming of the video" relates to an analysis of network conditions, while the phrase "continuous playback of the video" is the goal sought through the "determinations to shift" playback quality.

EX1009 (ITC ID) at 58-59

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 2-3

Both Experts Agree “to achieve continuous presentation” Is the Goal Sought



Dr. Kevin Jeffay

when starting a stream of a different bit rate. *Id.*, 8:50-57. Thus, the Challenged Patents disclose no fewer than six techniques directed to achieving the stated goal of continuous playback: (1) switching between different bitrate streamlets without filling a buffer first, (2) playing all the streamlets already arranged in a “staging

EX2141 (Jeffay Decl.) ¶ 46



Dr. Henry Houh

A POSITA would understand the language “to achieve continuous presentation” to be at most an aspirational goal given the nature of network connections and streaming, which inherently involves imperfect connections and conditions and therefore imperfect playback. Actually achieving uninterrupted, continuous playback is not required.

EX1022 (Houh Suppl. Decl.) ¶ 12

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 2

DISH Misrepresents Dr. Houh's Testimony In an Unrelated Matter Regarding Different Patents and Technology

- DISH misrepresents that “Dr. Houh previously testified . . . that a POSITA would understand ‘continuous’ to mean ‘substantially uninterrupted.’” Sur-Reply at 6-7.

Q. The last sentence of that paragraph, which begins on page 83 and carries over, reads, “A POSITA would understand that data that is smooth and continuous is substantially uninterrupted because any interruption would cause disruption or jerkiness.” Did I read that correctly? . . .

A. [Y]ou read it correctly. And this is in regards to another patent . . . , which is talking about **terrain characteristic data** simultaneously collected with the video data using a time interval which ensures that changes in terrain characteristics -- characteristic seem smooth and continuous to the user, . . . **I mean, again, this is a different case, a different set of facts, different specifications in the patent, different context, different file histories than the current case.** . . .

EX2150 (Houh Depo. Tr. 2) at 150:10-24

VENABLE LLP

EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

DISH's Alleged Practicing Product, the MOVE Player, Did Not Actually Achieve Continuous Presentation All the Time

- **stallCount** – a stall is basically when any kind of a blip occurs during play
- **mindur** – minimum duration of all the stalls users experienced (in ms)
- **avgdur** – average duration of all the stalls users experienced
- **maxdur** – maximum duration of all the stalls users experienced
- **enddurstall** – 1 if the user exited the browser during a stall; 0 if not
- **seekcount** – number of times a user used the seek function
- **mindelay** – minimum duration for the content to resume playing after a stall (in ms)
- **avgdelay** – average duration for the content to resume playing after a stall
- **maxdelay** – max duration for the content to resume playing after a stall

EX2022 (MOVE Networks
Tech Overview) at 29

VENABLE LLP

EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 12

DISH's Named Inventor and Declarants Confirmed the MOVE Player Did Not Achieve Continuous Playback All the Time



Drew Major

Q. Okay. So your technology doesn't ensure that viewers will never experience buffering or stalling, correct?

...

[A.] Yeah, we can't -- I -- can't ensure it.

EX1025 (Major Depo. Tr.) at 127:6-11



Mark Mitchell

Q. In some cases, you agree that the MOVE player's video playback would be interrupted as a result of buffering. Is that correct?

A. Yes, that's correct.

Q. And those interruptions would be a discontinuity in playback, correct?

...

A. It could be.

EX1026 (Mitchell Depo. Tr.) at 71:12-20

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 12-13

After Aylo Pointed Out the MOVE Player Itself Did Not Achieve Continuous Presentation, DISH's Interpretation Shifted Again

stalls, this is irrelevant even if it were true. The claims do not require eliminating *all* interruptions under *every* conceivable scenario. Rather, they require presenting content that automatically adjusts in response to network performance to avoid presentation interruption. If that sometimes succeeds, the apparatus that achieves the continuous playback in the claim is within the scope of the claims. *Cf. Broadcom*

Sur-Reply at 7

- But this admits it is aspirational, and Leaning discloses presenting content that automatically adjusts to network conditions to avoid interruptions in at least “the majority of cases.”

Recollecting that the criteria discussed earlier for automatic data rate switching downwards envisaged a rate reduction only in cases of buffer underflow (involving therefore interruptions in
5 the output), we note that with this modification such interruption can be avoided and therefore it is preferable to employ a criterion which anticipates underflow and avoids it in the majority of cases.

EX1004 (Leaning) at 15:3-6

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 12; Pet. at 30-31

The '234 Patent Claims Recite “Digital Content”

- The challenged claims recite “digital content,” which includes audio. Thus, if DISH’s interpretation of “to achieve continuous presentation” is wrong or if Aylo is correct that clearing Leaning’s buffer is not required in the audio embodiments, Leaning’s audio embodiments invalidate.

1. An end user station for adaptive-rate content streaming of **digital content** comprising:

a client module configured to be connected to a network

havi

requ

trans

12. A method executable by a client device to output rate-adaptive streams received via at least one transmission control protocol (RCP) connection with at least one server over a network, the method comprising:

receiving, by the client device, **digital content** from the at least one server via the at least one TCP connection

EX1001 ('234 Patent) at Claims 1 and 12

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 24

Leaning Teaches “to Achieve Continuous Presentation” Even Under DISH’s Original Interpretation Requiring No Interruptions

- DISH myopically focuses on the “Clear Buffer” step in Leaning’s exemplary flowchart.
- The flowchart relates to a specific audio streaming situation when needing to reset old sound cards.

25 Changes of sampling rate (and indeed switching between mono and stereo operation) have some practical implications for operation of the audio interface 36. Many conventional sound cards, although capable of operation at a range of different settings, require re-setting in order to change sampling rate, and necessarily this causes an interruption in its audio output. Thus in a

EX1004 (Leaning) at 14:25-28

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 3-5,12-13

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Leaning Teaches Solutions That Do Not Require Resetting the Sound Card or Clearing the Buffer

change sampling rate, and necessarily this causes an interruption in its audio output. Thus in a further modification, we propose that the sound card could be run continuously at the highest 30 sampling rate envisaged. When the player program is supplying, to the buffer, data at a lower sampling rate, this data is then up-sampled to this highest rate before or after the buffer. Similarly, if the card is always operated in stereo mode, decoded mono signals can be fed in parallel so feed both the left and right channels of the sound card input. Again, if the number of bits per sample of

EX1004 (Leaning) at 14:28-33

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 3-5; Pet. at 31-33

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Leaning Teaches Solutions That Do Not Require Resetting the Sound Card or Clearing the Buffer



Dr. Henry Houh

“So I think what a person of ordinary skill in this would recognize part of the reason for clearing the buffer is that the card is being reset, but Leaning is teaching an alternative where if you ran the card at this highest sampling rate and in stereo, and changes in the byte rate are up-sampled, and changes between mono -- stereo to mono are simply duplicating mono on both channels or changes in the sample size are padded as described in -- in this section that it would not be necessary to reset the card or clear the buffer, and so this is describing a general alternative to the flow chart where a person of ordinary skill would recognize that the clear buffer in the example would not be needed.”

EX2129 (Houh Tr.) at 97:6-23

DISH's Sur-Reply Misrepresents That Running the Sound Card at the Highest Sampling Rate Is Limited to BufferFullness

- Nothing in Leaning suggests that running the sound card “continuously at the highest sampling rate” is limited to the “BufferFullness = 0” condition. The disclosure describes general “practical implications for operation” and avoiding interruptions due to re-setting the sound card.

25 Changes of sampling rate (and indeed switching between mono and stereo operation) have
some practical implications for operation of the audio interface 36. Many conventional sound
cards, although capable of operation at a range of different settings, require re-setting in order to
change sampling rate, and necessarily this causes an interruption in its audio output. Thus in a
further modification, we propose that the sound card could be run continuously at the highest
30 sampling rate envisaged. When the player program is supplying, to the buffer, data at a lower

EX1004 (Leaning) at 14:25-33

- DISH's unsupported, attorney argument makes no technical sense. The sound card would be run “continuously at the highest sampling rate” regardless of whether the client is downshifting, upshifting, or not shifting at all. It would not make sense to do so only at certain times. EX1022 (Houh Suppl. Decl.) ¶¶ 16-18.

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 3-5

DISH's Sur-Reply Is Wrong that Leaning Teaches Clearing the Buffer for a Single, Fixed Sampling Rate

- DISH's cited portion of Leaning relates to the division of sub-files and says nothing about clearing the buffer

It is of interest to discuss further the process of partitioning the original file into sub-files.

* * *

number of frames. 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
20 mentioned above) is not the only way of achieving this, but it is certainly the most convenient. Note however that, depending on the coding system in use, the requirement that a sub-file should contain a whole number of frames may mean that the playing duration of the sub-files does vary slightly. Note that in this embodiment of the invention, the available data rates, though they use different degrees of quantisation, and differ as to whether they encode in mono or stereo, all use the
25 same audio sampling rate and in consequence the same frame size. Issues that need to be addressed when differing frame sizes are used are discussed below.

EX1004 (Leaning) at 12:8-26

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Pet. at 25

DISH's Reliance on the Jump Command Confirms That Clearing the Buffer Is Not Required

- DISH relies on the Jump command in Leaning's exemplary flowchart (POR at 13), but Leaning teaches clearing the buffer is not required on a Jump command—for example, in case the user jumps back or if the user jumps within the buffered content.

20 duration. We prefer, in the case of the jump, to suspend decoding and clear the buffer so that the new request is sent immediately, but this is not actually essential.

EX1004 (Leaning) at 11:19-20



Dr. Kevin Jeffay

Q. And you understand, then, that the -- where it says it's not essential, Leaning is teaching that it is not required, correct?

A. Correct. Leaning's not saying it's required.

EX1023 (Jeffay Depo. Tr.) at 59:8-13

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 4-5

DISH's Sur-Reply Misrepresents that Leaning's BufferLow% Requires the Buffer to Empty Multiple Times

- DISH argues that BufferLow% “requires the buffer to experience multiple ‘empties.’” Sur-Reply at 12. But BufferLow% does not require the buffer to fully empty, rather it tracks if “the buffer is getting **close to** being empty.”

The Buffer Low Percentage is the percentage of the time that the buffer contents represent less than 25% of the playout time (i.e. the buffer is getting close to being empty). If the Step Down Threshold is set to 0% then when the buffer empties the system always steps down when the other 30 conditions are satisfied. Setting the Step Down Threshold to 5% (this is our preferred default value) means that if the buffer empties but the measured Buffer Low Percentage is greater than 5% it will not step down. Further buffer empties will obviously cause this measured rate to increase and will

EX1004 (Leaning) at 8:27-32

DISH Misrepresents that T_p Must Equal 10 Seconds to Argue that Leaning Results in Discontinuities

- DISH misrepresents that Leaning's buffer must refill 10 seconds whenever the buffer is cleared. POR at 12. Clearing the buffer is not required, but even if it was, Leaning discloses that T_p is user-selectable and the sub-file size can be between 30% and 130% of T_p .

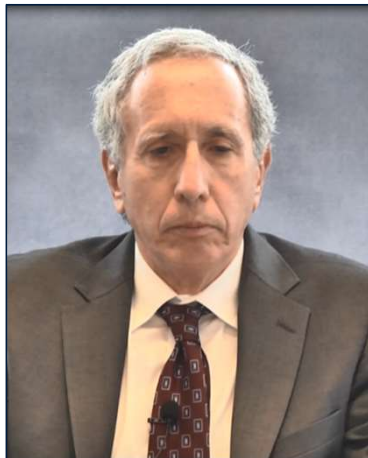
20 6. The player program has a parameter called the playout time T_p . In this example it is set at 10 seconds (it could be made user-selectable, if desired). It determines the degree of buffering that the terminal performs.

EX1004 (Leaning) at 5:20-22

changes are invoked. A sub-file size of between 30% and 130% of the playout time, or preferably around half the playout time (as in the examples given above), is found to be satisfactory.

EX1004 (Leaning) at 12:34-35

Dr. Jeffay Did Not See Any Issue With Tp Being Equal to Sub-File Duration



Dr. Kevin Jeffay

Q. Because it's user selectable, Leaning's playout time Tp is not limited to 10 seconds. Agree?

A. Yes.

EX1023 (Jeffay Depo. Tr.) at 61:2-6

Q. What if the duration of the subfile was the same as the Tp time, so 4-second subfile and Tp equals 4? . . .

[A.] So for a subfile size of 4 seconds and Tp equal to 4 seconds, just sitting here right now, **I don't see any issue with that.**

EX1023 (Jeffay Depo. Tr.) at 55:18-56:3

Dr. Houh Agrees There Would Be No Issue With T_p Equal to Sub-File Duration and Sub-Files Could Play Immediately with No Discontinuities



Dr. Henry Houh

22. Leaning thus teaches examples where the duration of a sub-file is *equal to or greater than* the playout time, e.g., $T_p \sim 3$ seconds for 4-second sub-files, or where T_p time can be user-selectable. Dr. Jeffay testified that he “[did not] see any issue with” the duration of the sub-file being equal to T_p , e.g., $T_p = 4$ seconds for 4-second sub-files. EX1023, 65:18-66:5. In these examples, there would be no temporal discontinuities because—even if the buffer were cleared—the next sub-file would begin playing immediately without waiting for the buffer to fill under sufficient network conditions.

EX1022 (Houh Suppl. Decl.) ¶ 22

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 8

Leaning Also Teaches Video Streaming Solutions That Do Not Require Clearing the Buffer

- Leaning teaches that video such as MPEG is decoded using a software video decoder instead of a video card that needs re-setting. EX1022 (Houh Supp. Decl.) ¶ 19.

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
10 partitioning the file into sub-files is unchanged.

EX1004 (Leaning) at 16:6-10



Dr. Henry Houh

A POSITA would understand that video such as MPEG would have been decoded using software incorporated into the player program. Thus, it would not make sense to clear the buffer because there would be no video card that required re-setting and no interruptions upon rate switching since every sub-file begins with an independently decodable I-frame.

EX1022 (Houh Suppl. Decl.) ¶ 19

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 5-6; Pet. at 20, 23

Leaning Also Teaches Video Streaming Solutions That Do Not Require Clearing the Buffer

- Leaning teaches encoding each sub-file to include only I-frames or to begin with an I-frame. EX1022 (Houh Suppl. Decl.) ¶ 19.

The delivery of video recordings does however have further implications for file partitioning if switching or jumps are to be permitted. In the case of recordings where each frame of a picture is coded independently, it is sufficient that a sub-file contains a whole number of 20 frames of a picture. If compression involving inter-frame techniques is in use, however, the situation is more complex. Some such systems (for example the MPEG standards) generate a mixture of independently coded frames ("intra-frames") and predictively coded frames; in this case each sub-file should preferably begin with an intra-frame.

EX1004 (Leaning) at 16:17:23



Dr. Henry Houh

A POSITA would understand that video such as MPEG would have been decoded using software incorporated into the player program. Thus, it would not make sense to clear the buffer because there would be no video card that required re-setting and no interruptions upon rate switching since every sub-file begins with an independently decodable I-frame.

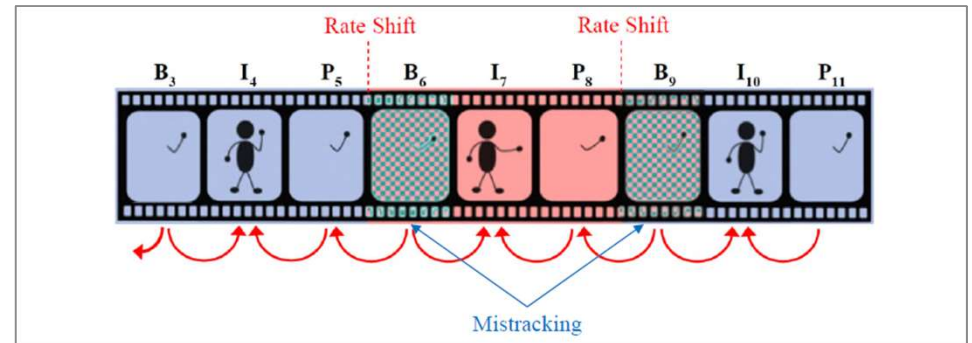
EX1022 (Houh Suppl. Decl.) ¶ 19

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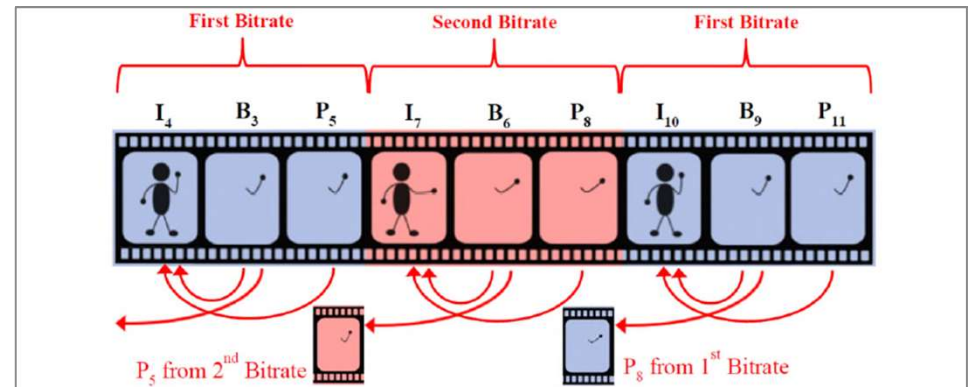
EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 5

There Is No Mistracking When Beginning Each Sub-File with an I-frame

- DISH's Sur-Reply ignores Leaning's teaching that each sub-file begin with an I-frame (or is entirely I-frames).
- DISH argues that the inclusion of inter-frames would create mistracking by presenting a diagram that begins each segment with a B-frame—not an I-frame as Leaning teaches.
- DISH's argument that Leaning does not address rearranging frames again relies on a diagram where each segment begins with a B-frame—not an I-frame as Leaning teaches.



Sur-Reply at 14



Sur-Reply at 15

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DISH's Reliance on "The Player Program Simply Ceases Playing" Is Unrelated and Irrelevant

- DISH relies heavily on a statement from Leaning that discusses non-ABR:

If, during this process, the buffer becomes empty, the player program simply ceases playing until further data arrives.

POR at 15 (citing EX1004 (Leaning) at 6:3-4); see also POR at 29

- But Leaning explains this is not the embodiment that provides for rate switching:

It will have been observed that the system described above offers the user no opportunity to intervene in the replay process. Nor does it offer any remedy for the possibility of buffer underflow (due for example to network congestion). Therefore a second, more sophisticated embodiment of the invention, now to be described, offers the following further features:

EX1004 (Leaning) at 6:9-12

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 8-9; Pet. at 16

DISH Ignores Leaning's Express Teaching to Avoid Content-Based Discontinuities

number of frames. 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.

EX1004 (Leaning) at 12:16-20

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 9, 12; Pet. at 27

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DISH's Sur-Reply Falsely Accuses Aylo of Introducing “An Entirely Reengineered Version of Leaning”

- DISH repeatedly argues that Aylo and Dr. Houh rely on “modifications” to Leaning and therefore must show motivation to combine and reasonable expectation of success. *E.g.* Sur-Reply at 11.
- But Aylo and Dr. Houh rely on the **express** disclosures of Leaning, which Leaning (not Aylo) refers to as a “modification.”

Changes of sampling rate (and indeed switching between mono and stereo operation) have some practical implications for operation of the audio interface 36. Many conventional sound cards, although capable of operation at a range of different settings, require re-setting in order to change sampling rate, and necessarily this causes an interruption in its audio output. Thus in a further modification, we propose that the sound card could be run continuously at the highest sampling rate envisaged. When the player program is supplying, to the buffer, data at a lower

EX1004 (Leaning) at 14:25-30

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 3-4

After Misrepresenting Aylo's EPO Arguments, DISH's Sur-Reply Tellingly Makes No Mention of the EPO Decision

- The EPO rejected every one of DISH's exact same arguments and found that Leaning teaches continuous playback for both audio and video.

The opposition division does not find these arguments convincing since D12 sets out that interruption in the audio output is caused by re-setting the sound card in order to change sampling rate (see page 14, lines 25-28). D12 suggests to run the sound card continuously at the highest sampling rate so as to avoid interruption in the audio output (page 14, line 28 - page 15, line 6). The opposition division considers that the skilled person would recognise that no such resetting of the video card is necessary in the case of rate-switching. As set out in page 18, lines 19-23, frame freezing may be not acceptable for rate-switching in video, which also points to continuous playback of the video.

EX1024 (EPO Prelim. Opinion) at ¶ 6.1.6

- DISH did not appeal the EPO's invalidity decision, and it is now final.

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 6-7

Dr. Houh's Prior Testimony Is Consistent with Clearing the Buffer by Playing Out Its Contents

- DISH misrepresents in its Sur-Reply that Dr. Houh “contradicts his prior deposition testimony . . . , where he confirmed that ‘clear buffer’ is performed in Leaning to ensure there is no ‘data *in the buffer*.’” Sur-Reply at 17.
- But Dr. Houh simply explained that the buffer must be cleared before resetting the sound card. He did not say it needed to be immediately purged.



Dr. Henry Houh

“Is that you have to reset the parameters, but the reason to clear the buffer is that if the data in the buffer were at the wrong – a different sampling rate like say -- and the sampling rate was changed that, you know, you would either get an octave lower or octave higher if you reproduce it at a range -- the rate changed by a factor of two.”

EX2129 (Houh Tr.) at 98:6-14

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE



Leaning (With or Without Klemets) and Gamble Teach Requesting Sub-parts of Sub- files Over Different TCP Connections (Claim 16)

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Leaning (With or Without Klemets) and Gamble Teach Requesting Sub-parts Over Different TCP Connections

'234 Patent Dependent Claim 16

16	The method of claim 12, wherein the at least one TCP connection comprises a plurality of different TCP connections, and wherein the requesting of the plurality of sequential individually-requestable portions includes requesting sub-parts of the individually-requestable portions over different ones of the plurality of different TCP connections , and wherein the arranging includes reassembling the individually-requestable portions from the requested sub-parts.
----	--

Not in Dispute:

- Leaning discloses HTTP 1.1, which uses multiple simultaneous TCP connections.
- Gamble discloses transmitting sub-parts of files over multiple TCP connections.
- Range requests for sub-parts of files were known.

The Dispute:

- Whether requesting sub-parts of files over multiple TCP connections is disclosed. **YES.**
- Whether it would have been obvious to combine Leaning (with or without Klemets) with Gamble. **YES.**

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 1-2, 16-18

Leaning (With or Without Klemets) and Gamble Teach Requesting Sub-parts Over Different TCP Connections

DISH does not rebut Petitioner's arguments but instead:

- Points to an irrelevant “file not found error” that indicates the end of a stream, which is different from a TCP connection error. POR at 27-30.
- Improperly ignores the combination, treating each reference individually. *Id.*
- Incorrectly suggests that Petitioner relies on Leaning alone and ignores Gamble and the knowledge of a POSITA. POR at 26-30.
- Claims that Gamble fails to disclose requesting segments or sub-files while ignoring the Petition's argument that a POSITA would have combined Leaning with Gamble and his or her knowledge of HTTP RANGE requests for segments or sub-files, which was well-known in the art. POR at 30-32.

Leaning's Use of Error Messages Does Not Mean It Does Not Disclose Multiple TCP Connections



Dr. Henry Houh

34. As an initial matter, Dr. Jeffay rests his arguments upon a faulty assumption that Leaning's mention of a "file not found error" that indicates a stream is complete is somehow related to a transmission error in TCP connections.

EX2141, ¶¶107-110. Dr. Jeffay testifies that "[a]n HTTP or TCP socket error message also may satisfy the 'If error message received, Stop' condition in Leaning's playback process. EX2141, ¶110. This is simply not credible. The error message referred to in Leaning is a "file not found" message that occurs when the player program attempts to access a file at a specific path—but the file is not there. For example, in Leaning's Bach recording, the sub-files go up through sub-file 134 and if the player program tries to request sub-file 135 it does not exist and therefore the player program receives an error message and the stream stops. These "file not found" errors occur at the *application*-layer and relates to the existence of a file on the server. On the other hand, a TCP connection error occurs at the *transport*-layer and relates to the ability of the client and the server to communicate at all. It is simply incorrect to conflate these two different errors.

EX1022 (Houh Suppl. Decl.) ¶ 34

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 17

DISH Does Not Rebut Dr. Houh's Opinions



Dr. Henry Houh

122. Additionally, a POSITA would have known that, using HTTP, a client could request sub-parts of a file by making RANGE requests. For example, a POSITA would have known that HTTP allows clients to request a byte range from a file and that requests could be made for multiple ranges from the same file in any order such that “client could connect to multiple servers simultaneously [and] request[] multiple ranges.” EX1012, 383-384; EX1019, 119-121 (explaining HTTP RANGE requests, including requests for a single range or a set of ranges).

EX1003 (Houh Decl.) ¶ 122

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Pet. at 57

Petitioner's Reply Arguments Are Entirely Consistent with the Petition

- DISH's Sur-Reply claims that Aylo "pivots to a new theory." Sur-Reply at 19. But Aylo's arguments are entirely consistent with the Petition:
 - Leaning teaches requesting via a plurality of TCP connections. Pet. at 56.
 - Gamble teaches that sub-parts of files can be transferred over a plurality of TCP connections and reassembled. Pet. at 56.
 - A POSITA would have known that, using HTTP, a client could request sub-parts by making RANGE requests. Pet. at 57.
 - Therefore, a POSITA would have been motivated to configure Leaning to request sub-parts of Leaning's sub-files using HTTP Range requests over different TCP connections. Pet. at 57.

DISH's Argument that a POSITA Would Not Have Been Motivated To Combine the Prior Art Is Untimely and Without Merit

- DISH failed to raise its arguments regarding motivation to combine in its POR—the Sur-Reply is too late.
- Regardless, DISH is wrong. Petitioner and Dr. Houh explained the motivations to combine and expectations of success in both the Petition and Reply.

123. A POSITA would have been motivated to configure Leaning's apparatus to request sub-parts of the files (sub-files) over different TCP connections and reassemble the files from the received subparts, such as taught by Gamble. A POSITA would have understood that this improves reliability in situations where one connection fails by retrieving other subparts over other connections and retrieving more file data more quickly. A POSITA also would have understood that it takes advantage of available bandwidth by parallelizing retrieval of a segment to increase throughput where an individual TCP connection's maximum throughput is the bottleneck. EX1012, 108-109 (explaining that parallel TCP connections were known and may be faster). A POSITA would have had a reasonable expectation of success with such a modification because the TCP protocol allows for multiple connections, and utilizing multiple connections to request and retrieve different parts of a single file was well known, as exemplified by Gamble.

EX1003 (Houh Decl.) at ¶ 123; *see also* Pet. at 57-58

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 16; Pet. at 57-58

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Secondary Considerations Do Not Overcome Obviousness

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

The ITC Determination Is Irrelevant to Secondary Considerations Here

- As the Board found in the Ogdon IPRs, the ITC's determination was premised on Respondents' concession and concerned different patents and a different record.

⁹ We note that the ITC's finding of a presumption of nexus was premised on the Respondents' concession about an invalidating public use of the MOVE Media Player in 2005. Ex. 1009, 212–13. In contrast, the instant record includes no such concession. On this record, we have no way of knowing what other similarities and differences exist between the records of the ITC Investigation and the instant case. Accordingly, we form our own opinion about the evidence presented in this case, as discussed below.

EX1030 ('680 FWD) at 43 n.9

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 19

DISH Improperly Incorporates By Reference Swaths of Claim Charts and Expert Opinions

74. MOVE's contemporaneous documents show that MOVE's Media-Player embodied, and was coextensive with, the Challenged Claims. *See* EX2141, ¶¶193-209; EX2022 (MOVE Networks Tech Overview); EX2021 (Streaming Media Technology); *see also* EX2071. To this end, PO provides DISH's and the ITC's analysis showing how MOVE's Media-Player and Sling TV embody MOVE's patented ABR technology, practices each limitation, and are coextensive with the challenged claims. EX2071 (Exemplary Claim Chart); *see also* EX1009 101-12 ITC finding that Sling TV Apps practice claim 1 of the '564 Patent). Dr. Jeffay provides his expert analysis of MOVE's Media-Player practicing an independent claim on an element-by-element basis and that it is co-extensive with the claimed invention. *See* EX2071; EX2141, ¶¶193-209; *cf. Echelon Fitness Multimedia, LLC v. Peloton*

POR at 40-41

- DISH was admonished in the Ogdon IPRs for such improper incorporation.

¹¹ Patent Owner also makes tangential references to "Sling TV" in its arguments in favor of a presumption of nexus. *See* PO Resp. 54; PO Sur-reply 21. However, Patent Owner never develops any basis for its alleging such a presumption relative to Sling TV. At best, Patent Owner cites the ITC Investigation. *See* PO Resp. 54 (citing Ex. 1009, 112-13, 133, 151-52, 165-66). We decline to credit the ITC Investigation in the absence of any developed argument in Patent Owner's papers relative to Sling TV. This also is the epitome of improper incorporation by reference. *See* 37 C.F.R. § 42.6(a)(3). Furthermore, we note that Patent Owner's evidence of secondary considerations is tied almost exclusively to the MOVE Media Player.

EX1030 ('680 FWD) at 44 n.11.

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 20

Slide 73

DISH Cannot Show a Nexus to the Claims



“In order to accord substantial weight to secondary considerations in an obviousness analysis, the evidence of secondary considerations must have a ‘nexus’ to the claims, i.e., there must be a legally and factually sufficient connection between the evidence and the patented invention. . . . A patent claim is not coextensive with a product that includes a ‘critical’ unclaimed feature that is claimed by a different patent and that materially impacts the product’s functionality.”

Fox Factory, Inc. v. SRAM, LLC, 944 F.3d 1366, 1373-75 (Fed. Cir. 2019) (cleaned up)

“On remand, the Board, in considering the evidence of unexpected results, should determine whether there is a nexus between the unexpected in vivo concentration profile and aspects of the claimed invention not already present in the prior art. More specifically, . . . there must be a nexus to some aspect of the claim not already in the prior art.

In re Huai-Hung Kao, 639 F.3d 1057, 1069 (Fed. Cir. 2011)

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 21-22

Dr. Jeffay Remarkably Only Charts Claim 1 While DISH Argues Secondary Considerations Apply Only to Claims 12-20

U.S. Patent No. 11,991,234 Claim 1

The following claim chart shows exemplary aspects of certain streaming services and products provided by MOVE Networks, Inc. (“MOVE”) that practice the limitations of claim 1 of the ’234 Patent. The chart is exemplary and should not be read to limit MOVE’s practicing of the below-listed claim or any claim with respect to the services or products described below, including MOVE’s Move Media Player (“Media Player”). Nor should this chart be read to limit the claims practiced by MOVE. Additionally, this chart should not be read to limit the acts that infringe the below claim.

Claim Element	Example Infringement Evidence
[1.pre] An end user station for	MOVE’s Media Player operated within a system that operates on an end user’s content player device (“End User Device”) to stream live and on-demand video over a network from a server for playback of the video.

EX2071

For clarity, PO’s evidence of objective indicia of non-obviousness discussed below is being presented only with respect to Claims 12-20, which recite the “continuous presentation” limitation. No fewer than five categories of objective

POR at 37

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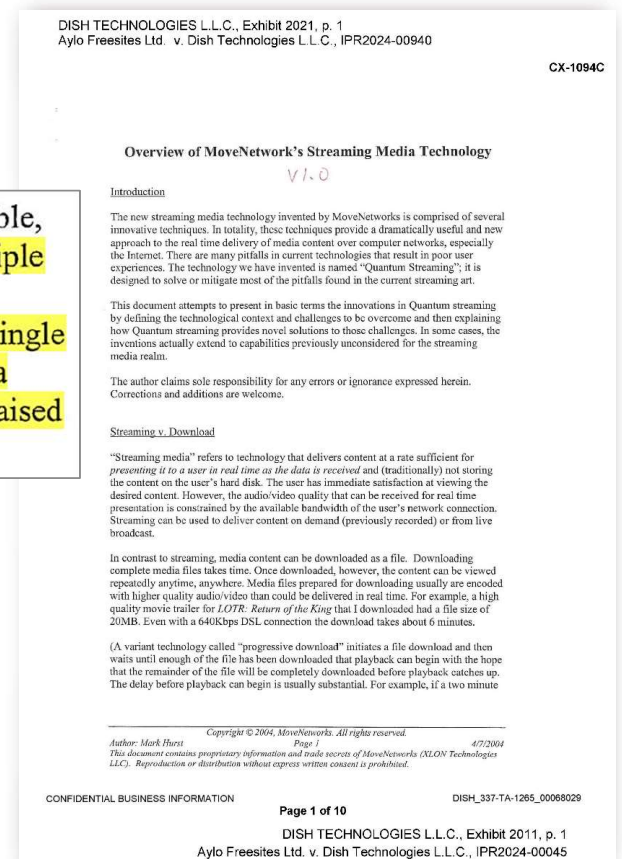
EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 20

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A “Secret” of the Move Player was Multiple TCP Connections

With a single innovation, Quantum streaming solves or alleviates to the extent possible, the problems of reliability, efficiency, and latency. The secret lies in our use of multiple TCP connections between the client and the origin web server (or web cache—the intervention of a cache is transparent to the client.) Other streaming solutions use a single connection and receive their data serially. By requesting more than one streamlet at a time (“parallel retrieval”) with each request on a different connection, efficiency is raised to near maximum and latency is virtually eliminated.

EX2021 (Move Internal Doc.) at 6



EX2021 (Move Internal Doc.)

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 21-22

The Board Agreed in the Ogdon IPRs that Multiple TCP Connections is a Critical Unclaimed Feature

also Ex. 2059, 11 (similar statement in another MOVE document). We agree with Petitioner (Pet. Reply 22) that the plain language of this document—which Patent Owner itself put forth as evidence of nexus—indicates that using multiple TCP connections is a critical unclaimed feature of the MOVE Media Player. As Patent Owner’s declarant and named inventor, Mr. Major testified, the use of multiple parallel TCP connections

EX1030 ('680 FWD) at 45-46

- Claim 16 recites “a plurality of TCP connections” but DISH did not assert nexus based on claim 16’s limitations. Its belated attempt to do so in its Sur-Reply is too late and should be disregarded. Sur-Reply at 1, 4, 22.

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 21-22

Slide 77

DISH Incorrectly Asserts That “the Board’s reasoning [in the Ogdon IPRs] does not apply to at least dependent Claim 16”

(“The use of streamlets combined with our other innovative concepts makes possible” certain enumerated benefits), 7 (crediting only “the elimination of the need for specialized *media* servers” as “[a] key and far reaching conceptional and practical innovation”).

EX1030 ('680 FWD) at 47

Petitioner also has cited evidence that the use of HTTP and standard (non-specialized) servers were other critical unclaimed features of the MOVE Media Player. See Ex. 2012, 22; Ex. 2062, 3. In fact, Patent Owner cites some of these aspects of the MOVE Media Player in support of its commercial success (PO Resp. 61), copying (*id.* at 63), and industry praise arguments (*id.* at 65). The record includes at least some evidence suggesting that these features also were considered significant features of MOVE’s technology. See Ex. 2006 ¶¶ 46–47 (Dr. Jeffay testifying that he “was

EX1030 ('680 FWD) at 47

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 21-22

In the Ogdon IPRs, DISH Argued the “Unique Characteristics” Were Actively Adjusting Video Quality to the Bandwidth Available and Delivering Pieces of Content Progressively

¶¶[165-166]. For example, when users praised the MOVE Media Player as being “especially impressive,” they tied this praise to the expressly claimed features, such as “actively adjusting ... video quality to the bandwidth available” and delivering “pieces of content progressively.” EX2023 (Move a Next Gen. Content Dist

EX1031 ('680 POR) at 53-54

The Board in the Ogdon IPRs Found that DISH's Alleged "Unique Characteristics" Were Already in the Prior Art

We agree with Petitioner that "actively adjusting . . . video quality to the bandwidth available" and "delivering pieces of content progressively" were taught by the prior art, namely, Ogdon and Leaning. *See* Ex. 1004,

* * *

Ogdon and Leaning). Nexus cannot be predicated on aspects of the technology that are already in the prior art. *See Kao*, 639 F.3d at 1069. Thus, Patent Owner's attempt to establish a direct nexus based on these alleged "unique characteristics" is fatally flawed, and we accord these arguments little or no weight.

EX1030 ('680 FWD) at 49

- In doing so, the Board rejected finding a nexus for over 120 claims of the 180+ claims DISH has argued a nexus for thus far.

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 22

DISH Pivots to Asserting Nexus to a Different Feature

Ogdon IPR Final Written Decision

Patent Owner argues that certain evidence of praise is tied to “the expressly claimed features, such as ‘actively adjusting . . . video quality to the bandwidth available’ and delivering ‘pieces of content progressively.’” *Id.* at 53–54 (citing Ex. 2023).

EX1030 ('680 FWD) at 48

DISH's Patent Owner Response Here

Critically, the evidence demonstrates that the success of MOVE's Media-Player is directly tied to the claimed unique combination including the “continuous presentation” feature recited in Claims 12-20

POR at 41

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 22-23

DISH Is Wrong that There Is no Evidence Customers Experienced Stalls—DISH's Own Evidence Shows They Did

- **stallCount** – a stall is basically when any kind of a blip occurs during play
- **mindur** – minimum duration of all the stalls users experienced (in ms)
- **avgdur** – average duration of all the stalls users experienced
- **maxdur** – maximum duration of all the stalls users experienced
- **enddurstall** – 1 if the user exited the browser during a stall; 0 if not
- **seekcount** – number of times a user used the seek function
- **mindelay** – minimum duration for the content to resume playing after a stall (in ms)
- **avgdelay** – average duration for the content to resume playing after a stall
- **maxdelay** – max duration for the content to resume playing after a stall

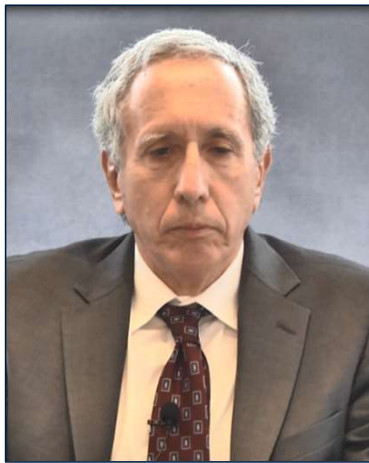
EX2022 (MOVE Networks
Tech Overview) at 29

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 12

DISH Should Be Held to Its Arguments in the Ogdon IPRs, but Regardless, Continuous Playback Was Known in the Art

- To the extent DISH is allowed to now rely on “continuous playback,” this also fails. Dr. Jeffay testified on behalf of Amazon in another IPR that this feature was known.



Dr. Kevin Jeffay

the same as the order in which they were received from the recording client. A POSITA would have understood that the sequence of recorded media stream segments would be the same sequence used for continuous playback, otherwise the played stream would not maintain the same temporal continuity and would be subject to jumps that may disorient the user. For example:

EX1036 (Jeffay Amazon Decl.) ¶ 163

Id. at 5:37-40. The end result is that a “video will be displayed from beginning to end in a continuous manner as is typical when using a streaming server and a stream capable player.” *Id.* at 5:47-50. Feig’s method may operate in a streaming mode in

EX1036 (Jeffay Amazon Decl.) ¶ 74

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 22-23

In Its Sur-Reply, DISH Tries to Pivot Again By Asserting Nexus is Tied to “Multiple TCP Connections” But Mischaracterizes the Ogdon FWD

DISH’s Sur-Reply

not apply to at least dependent Claim 16. Reply, 21. In *Ogdon*, the Board found no nexus because the claims lacked certain allegedly “critical” but “unclaimed features”—specifically, “multiple TCP connections” and “HTTP requests.” IPR2024-00043, Paper 59, 41-59. Claim 16 (via its dependency from Claim 12) expressly recites both of those features. The only rationale for denying nexus in *Ogdon* is therefore inapplicable to at least that claim. Regardless, the ITC’s finding of a presumption of nexus should apply to *all* of the Challenged Claims here.

The Board in the *Ogdon* IPR denied nexus for multiple reasons including:

- Non-specialized servers was a critical but unclaimed feature
EX1030 ('680 FWD) at 47
- Improper incorporation by reference
EX1030 ('680 FWD) at 44 n.11, 49-50
- DISH tied nexus to known ABR streaming
EX1030 ('680 FWD) at 47-48
- Any commercial success tied to MOVE entity or known ABR streaming
EX1030 ('680 FWD) at 44 n.11, 47-48, 54-55
- DISH failed to show any licenses tied to the claimed invention
EX1030 ('680 FWD) at 55

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 19-23

DISH's Secondary Considerations Fail for the Same Reasons as in the Ogdon IPRs

- DISH's long felt need evidence is tied to known ABR streaming technology.
EX1030 ('680 FWD) at 51-52.
- DISH's surprising results differ in degree, not kind.
EX1030 ('680 FWD) at 52-53.
- DISH's commercial success evidence lacks nexus.
EX1030 ('680 FWD) at 53-55.
- DISH's evidence does not show copying.
EX1030 ('680 FWD) at 55-57.
- DISH's industry praise is tied to known ABR streaming technology.
EX1030 ('680 FWD) at 57-59.
- DISH's alleged praise lacks nexus or is tied to known ABR streaming technology.
EX1030 ('680 FWD) at 58-59.

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 19-23

Whether BT Commercialized Leaning Is Irrelevant to Secondary Considerations



“Petitioner need not show that the invention has been implemented into a prior art commercial product to establish obviousness. *See, e.g.*, 35 U.S.C. § 311(b) To the extent that Patent Owner implicitly argues that Petitioner’s expert testimony somehow supports secondary considerations of nonobviousness, this argument is conclusory and unpersuasive. *See id.*”

Samsung Electronics Co. Ltd. v. Lynk Labs, Inc., IPR2021-01299, Paper 32 at 19 (P.T.A.B. Mar. 7, 2023)



McNeil-PPC, Inc. v. L. Perrigo Co., 337 F.3d 1362, 1369 (Fed. Cir. 2003) (upholding a finding of obviousness “even if [the prior art] had not been commercialized.”)

Loral Fairchild Corp. v. Matsushita Elec. Indus. Co., 266 F.3d 1358, 1362 (Fed. Cir. 2001) (“Further efforts to commercialize the invention are simply not relevant to determining whether a reference qualifies as prior art.” (citation omitted))

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 23-24

Slide 86

The BT Declarant Admitted That Leaning's Audio Embodiment Was Commercialized and That Leaning Was Licensed



Mr. Peter Ratcliffe

10. Mr. Whybray informed me that, although the audio teachings of the '343 Application were commercialized as part of internal trials, the video teachings of the '343 Application were never commercialized. According to BT's own records the '343 Application was never separately licensed outside of certain entire 'patent portfolio' licences that BT has entered into with third parties in the normal course of BT's own patent commercialization efforts.

EX2126 (Ratcliffe Decl.) at ¶ 10

At DISH's Direction, the BT Declarant Only Searched for One Product Related to Video



Mr. Peter Ratcliffe

- Q. Am I correct that in Baker Botts' email to Mr. Langlands Baker Botts identified the Voyager 2000 product? Correct?
- A. Yes.
- Q. Did Baker Botts ask you to investigate any other products besides the Voyager 2000 product?
- A. No.

EX1037 (Ratcliffe Depo. Tr.) at 18:17-25

It Appears BT Did Commercialize the Video Teachings of Leaning, But the BT Declarant Never Checked

The key feature of Fastnets is the patented use of SP (switching) frames to switch between multiple video streams encoded at different data rates. At any time, only one stream is transmitted. For example, consider the case of a GPRS mobile data connection, where the expected data throughput might be 30-40Kbps. One might

EX1038 (Fastnets Article) at 2

stream, or if necessary the 8Kbps stream. This can be done without pause or glitch in the displayed picture. If the throughput restriction is temporary, and the server detects that throughput is increasing, then it will switch back to a higher speed stream – again, without any pause in video playback.

EX1038 (Fastnets Article) at 2

Fastnets is a high-performance, network-agnostic video streaming architecture that eliminates some of the worst problems of video streaming: slow start, picture freezing on network congestion, and poor video quality. Use of Fastnets can also potentially save 30% on peak bandwidth requirement.

EX1038 (Fastnets Article) at 1

Innovative Research BT Research & Venturing
IPR Overview, Issue 1.7 (22nd February 2007)



Instant video streaming

Video without the waiting

Streamed video is becoming more and more important for Internet services – now especially for mobile access and for IPTV. But video access over the Internet involves lengthy start-up delays of up to 30 seconds. Congestion often causes the picture to freeze, followed by another start-up delay (especially frequent with mobile access).



BT's patented 'Fastnets' technology avoids both the delays and the affects of congestion and, coupled with H.264 video technology, provides perhaps the fastest, highest quality streaming capability available.

Fastnets is a high-performance, network-agnostic video streaming architecture that eliminates some of the worst problems of video streaming: slow start, picture freezing on network congestion, and poor video quality. Use of Fastnets can also potentially save 30% on peak bandwidth requirement.

Fastnets has been implemented as a complete system, but is also available as component technologies that can be incorporated into existing streaming architectures.

Player features

- Fast-start streaming: video display starts much more quickly - e.g. from 2-3 seconds for GPRS, or 0.2 seconds on a LAN.
- Faced with congestion that restricts throughput, the picture quality reduces but the video continues – drastically reducing pausing and rebuffering. This provides application-layer QoS that can work in addition to network QoS.
- Allows 30% or more saving on peak bandwidth.

Aylo Exhibit 1038
Aylo v. DISH, IPR2024-00940

EXHIBIT
1

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EX1038 (Fastnets Article) Slide 89

EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 24-25

Everything DISH Claims Was a Unique Characteristic Was Present in Fastnets and Disproves Nexus

scalable Internet video streaming without freezing, delays, or other errors. Mr. Major, a pioneer in networking technology and Chief Scientist at Novell and later named a Cisco Fellow, developed this solution and realized his concept would support fast startup of playback, intelligent shift on-the-fly between different video qualities in response to changing network conditions, and a continuous playback of content that would not freeze or buffer. EX2020 ¶¶10-16, 20. Microsoft explained

POR at 37-38

Everything DISH Claims Was a Unique Characteristic Was Present in Fastnets and Disproves Nexus

The key feature of Fastnets is the patented use of SP (switching) frames to switch between multiple video streams encoded at different data rates. At any time, only one stream is transmitted. For example, consider the case of a GPRS mobile data connection, where the expected data throughput might be 30-40Kbps. One might

EX1038 (Fastnets Article) at 2

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- Allows 30% or more saving on peak bandwidth.

Aylo Exhibit 1038
Aylo v. DISH, IPR2024-00940

EXHIBIT
1

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EX1038 (Fastnets Article) Slide 91

EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Reply at 24-25

Fastnets Was Not Limited to a “Push” Architecture, But Again the BT Declarant Never Checked

- DISH’s Sur-Reply cites an exhibit that is not in the record and should be disregarded. Sur-Reply at 25 (citing EX1041 from IPR2024-00919).
- In any event, the exhibit teaches clear features of a client “pull” architecture.

4.3.4 Client buffering

The decoding buffer at the client reduces the impact of network jitter, packet loss and variable throughput on the quality of media presented to the user. By de-coupling the transmission rate from the media encoding rate, the client’s decoding buffer can be filled when network conditions are favourable, providing resilience for less favourable times.

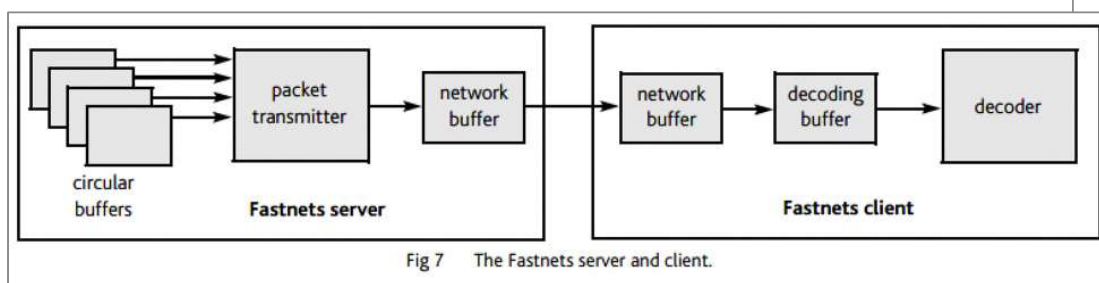
IPR2024-00919, EX1041 (BT Article) at 199

4.3.8 Streaming from file

Streaming from file is simpler than live streaming. There is no need for circular buffers since data can be read from file as and when needed. The server, however, uses the same techniques to fill up the decoding buffer at the client and to switch between play streams. Trick modes, such as fast forward, fast reverse and random access are achieved using the intra stream.

IPR2024-00919, EX1041 (BT Article) at 201

The Figure Cited by DISH Says Nothing About Whether Fastnets Was a “Push” or “Pull” System



Sur-Reply at 25

Mobile video-streaming

M D Walker, M Nilsson, T Jebb and R Turnbull

This paper describes well-known and new techniques for streaming video to a mobile device. It describes how that mobile video services are available for GPRS-enabled mobile handsets, by using a system developed at BT called 'Fastnets'. A review of current mobile streaming systems is provided, and the advantages of the Fastnets system are also described.

1. Introduction

Mobile video has been lauded as one of the key service innovations that justified the heavy investment in 3G licences across Europe some three years ago. While 3G undoubtedly has the capacity to provide compelling video-based applications, existing 2G-based technologies such as general packet radio service (GPRS) can be used to deliver mobile video services today.

This paper considers the state of the art for mobile video streaming; it discusses the international standards that are applicable for mobile streaming, and describes a mobile video-streaming system developed by BT, which enables high-quality video-streaming using both 3G and GPRS networks.

2. Technical details for mobile streaming

2.1 Streaming principles for mobile
Real-time video applications require media packets to arrive in a timely manner — excessively delayed packets are useless and are treated as lost. This causes the synchronisation between encoder and decoder to be broken, and errors to propagate in the rendered video. The technical implication for IP networks is that the data representing the compressed audio and video cannot be considered as ordinary data files — transfer methods such as ftp are not appropriate. The actual transfer methods for streamed media are discussed later.

By way of example, consider an audio/video clip of duration one minute, that has been compressed at an average data rate of 20 kbit/s. To stream this clip to a user, not only must the network provide an average throughput of 20 kbit/s, but the instantaneous throughput of the link must not fall below an average of 20 kbit/s, for the duration of the streaming. However, if it is non-deterministic — without quality of service (QoS) guarantees, there is no

way of knowing for sure what the future bandwidth characteristics of the network link will be.

This problem is exacerbated for delivery to a mobile device — mobile IP networks, particularly GPRS, provide very low and variable data throughput. The device itself may not have sufficient processing power to employ complex error concealment and recovery schemes. This can lead to a poor experience when viewing streamed media that has not been designed for mobile networks.

2.2 Common techniques to improve performance
Typically, streaming systems employ a number of well-known techniques to provide resilience to network congestion. These include the insertion of regular keyframes within the data-stream to provide re-synchronisation points should timeliness be lost, at the cost of reduced compression efficiency. A second common technique is to employ buffering at the player — delay is traded for packet loss and jitter: provided the average throughput requirements of the video-stream match the average available bandwidth, the receiver buffer size can be dimensioned to accommodate the expected jitter, and allow for retransmissions. In fact, buffering can also be used to artificially increase the perceived throughput of the network link, by forcing the player to buffer a large proportion of the entire clip before playback starts, but at the cost of high start-up delay.

2.3 Compression
Compression is a method for reducing the amount of data required to represent digital media. In the same way that a utility, such as WinZipTM, is popular for compressing documents, so there are techniques to compress audio and video data. The higher the degree of compression, the lower are the storage and transmission requirements for audio/video clips. Compression is achieved using an encoder/decoder pair, termed a 'codec'.



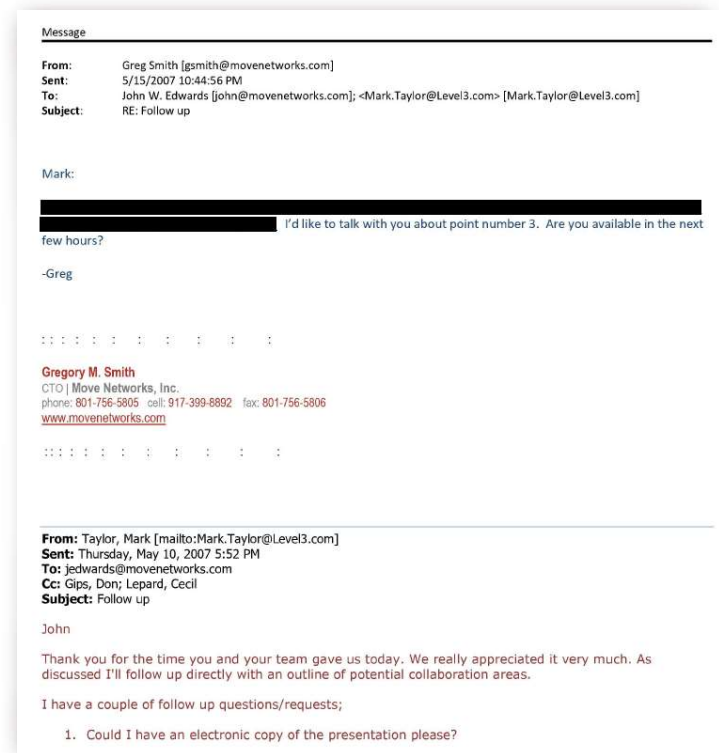
The Board Should Exclude DISH's Improper Evidence

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

The Board Should Exclude Exhibits That Are Email Chains Directed to Out-of-court Statements of Third Parties and Any Arguments Based Thereon

- Aylo moves to exclude Exhibits 2041-2043, 2059, 2067, 2081, 2088, 2089, and 2091, which are a collection of out-of-court email chains.
- Violates Fed. R. Evid. 801 an 802, 902. See Paper 57 (Aylo's Motion to Exclude) at 2-6.
- *Viking Drill & Tool, Inc. v. Wang*, No. IPR2023-00474, 2024 WL 3311903, at *21 (P.T.A.B. July 5, 2024) (excluding emails "directed towards the out-of-court statements of a third party").
- DISH relies on these exhibits not for proof of praise but for the truth of the matter asserted.



EX2041

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Mot. to Exclude at 2-6; MTE Reply at 1-4

Slide 95

The Board Should Exclude DISH's Improper Citation to and Reliance on a Declaration in the Unrelated *Microchip* IPR

- Citing to the declaration as if its evidence violates 37 C.F.R. § 42.23(b).
- DISH mischaracterizes Dr. Houh's statements.
 - Secondary considerations "***may be*** taken into account . . . ***if they are present.***"
 - He did not analyze secondary considerations.
- His prior testimony cannot be impeachment because nothing is inconsistent.

22. I have been informed that a patent claim is unpatentable if it would have been obvious to a person of ordinary skill in the art. In analyzing the obviousness of a claim, I understand the following factors may be taken into account: (1) the scope and content of the prior art; (2) the differences between the prior art and the claims; (3) the level of ordinary skill in the art; and (4) any so called "secondary considerations" of non-obviousness if they are present.

Microchip Tech. Inc. v. Aptive Techs. AG, IPR2024-00228, EX2001 ¶ 22

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EX1039 – DEMONSTRATIVE EXHIBIT – NOT EVIDENCE See Mot. to Exclude at 6-8; MTE Reply at 5