

Withrow Networks, Inc. v. Google LLC, et al.

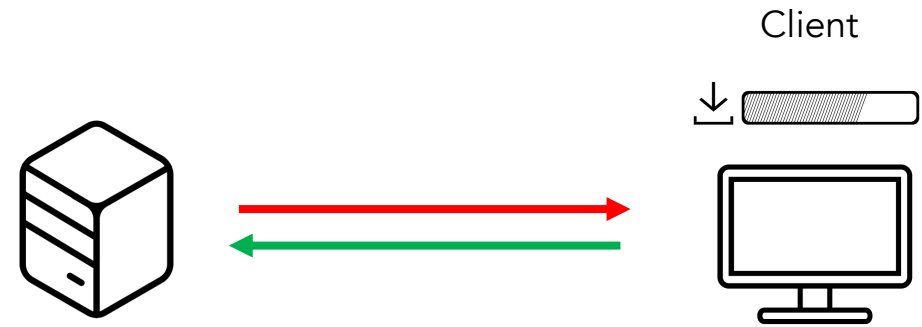
5:24-cv-03203-PCP

Plaintiff's Opposition to 101 Motion

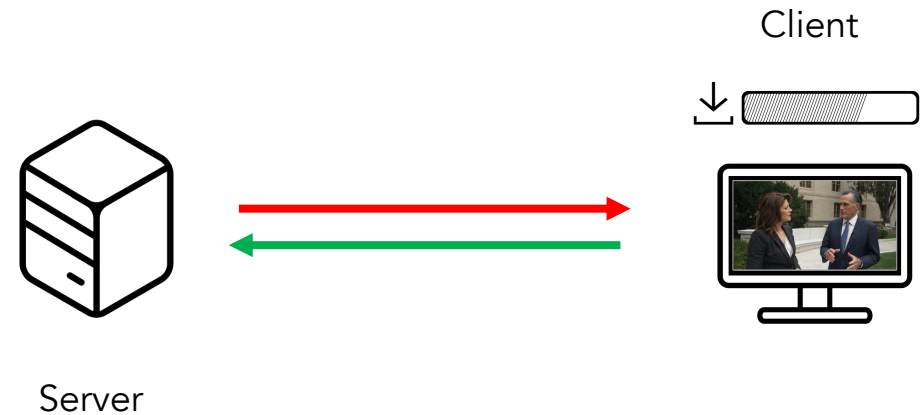
Technology Tutorial for 101 Claim Interpretation

Prior Art: Download of Media

Downloading. A device must wait until an entire single video file is downloaded to begin playback.

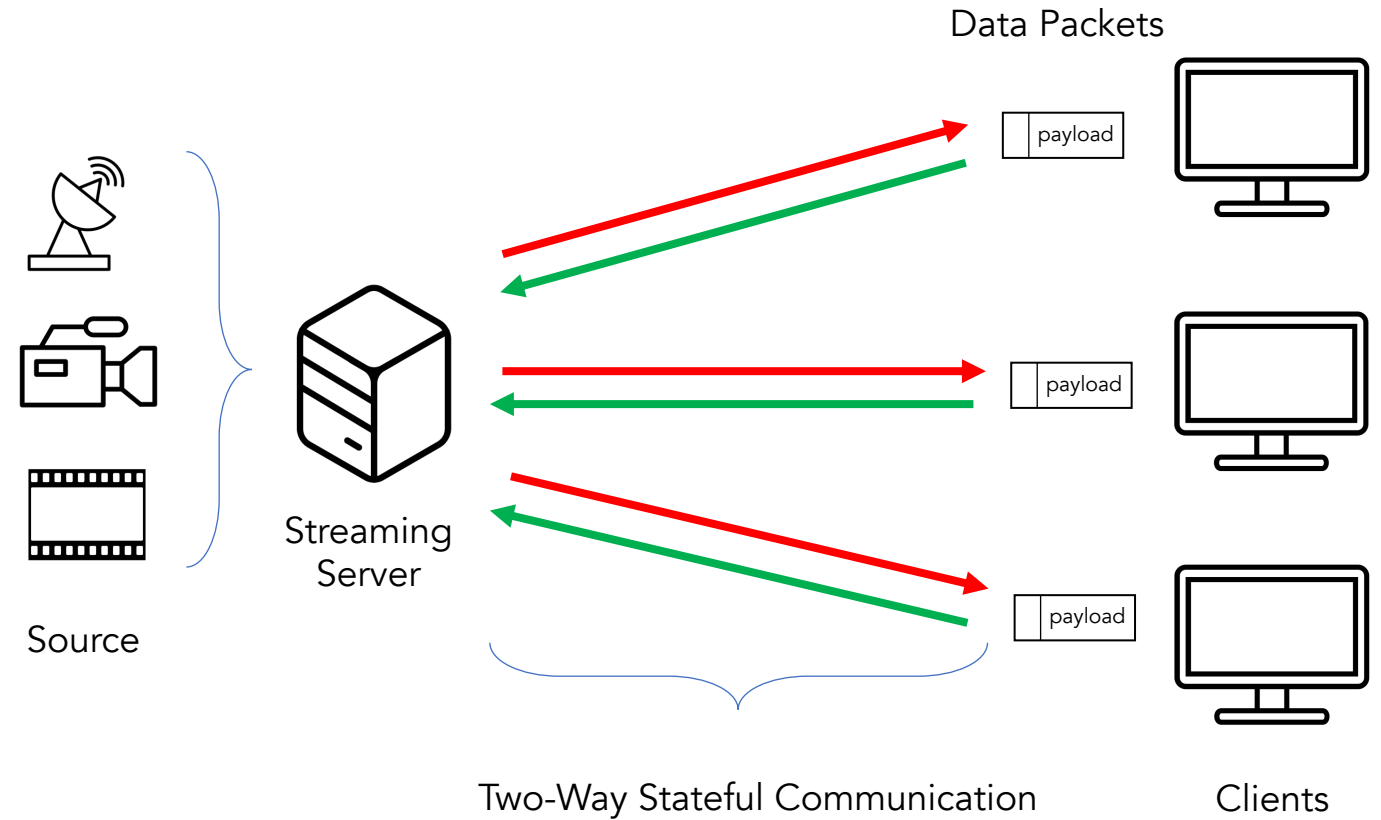


Progressive Downloading. After a *portion* of a single video file is downloaded, a user can begin playback while the remainder of the file is received.



Prior Art: Bit Streaming of Media

Streaming. Unlike waiting to download an entire video, streamed media is played immediately and unless needed for offline use, removed from the device.



Progress from Prior Art Techniques to Segmented HTTP ABR: Stateful to Stateless

Network protocols can be broadly classified into two types – Stateful and Stateless.



Stateful is like a continuous phone connection. Once a connection is validated, an indefinite session exists until someone hangs-up. Stateful's key feature is that a single server maintains the state of all sessions, meaning prior transactions impact future ones.



Stateless is like a walkie-talkie. Each message is independent as there is no relationship or knowledge between one transmission and the next. A stateless protocol, like HTTP, is the same. Like a walkie-talkie, the HTTP client-server connection is terminated once the transmission is complete.

Progress from Prior Art to Segmented HTTP ABR: Stateful to Stateless

Benefits in moving from prior art stateful streaming to stateless segmented HTTP streaming.

Scalability: Stateless is more scalable. Each request is independent and can be handled by any available server.

Fault tolerance: In stateful systems, the loss of a server can result in the loss of session data unless additional measures, such as session replication, are in place.

Resource utilization: Stateless has lower resource utilization because there is no need to store and manage session data.

Development complexity: Stateless is simpler to develop and maintain, whereas stateful systems may require careful handling of session data and state management.

Progress from Prior Art to Segmented HTTP ABR: Data Packets to Files

Data Packets



Data packet containers

A self-contained unit of data carrying information (payload) and routing instructions (header) that is designed for a single instance of use between sender and receiver, such as over a network.

Files



Data storage containers

A file is different from a packet:

- Packets move data, files store it.
- Files are persistent, whereas packets are transient.
- A file is recognizable by a file system.

Progress from Prior Art to Segmented HTTP ABR: Server to Client Control

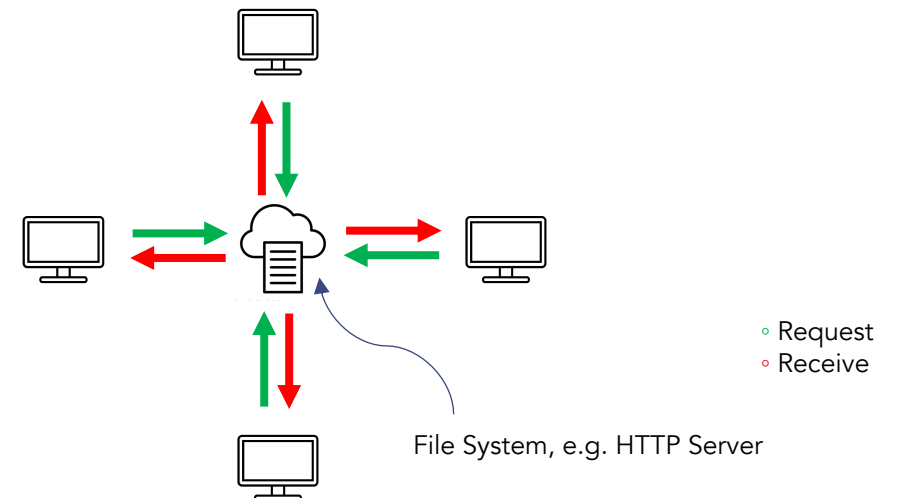
Server Control

A dedicated server controls streaming and sends data to the client. For large scale streaming operations, this computationally taxes the server or requires numerous servers.

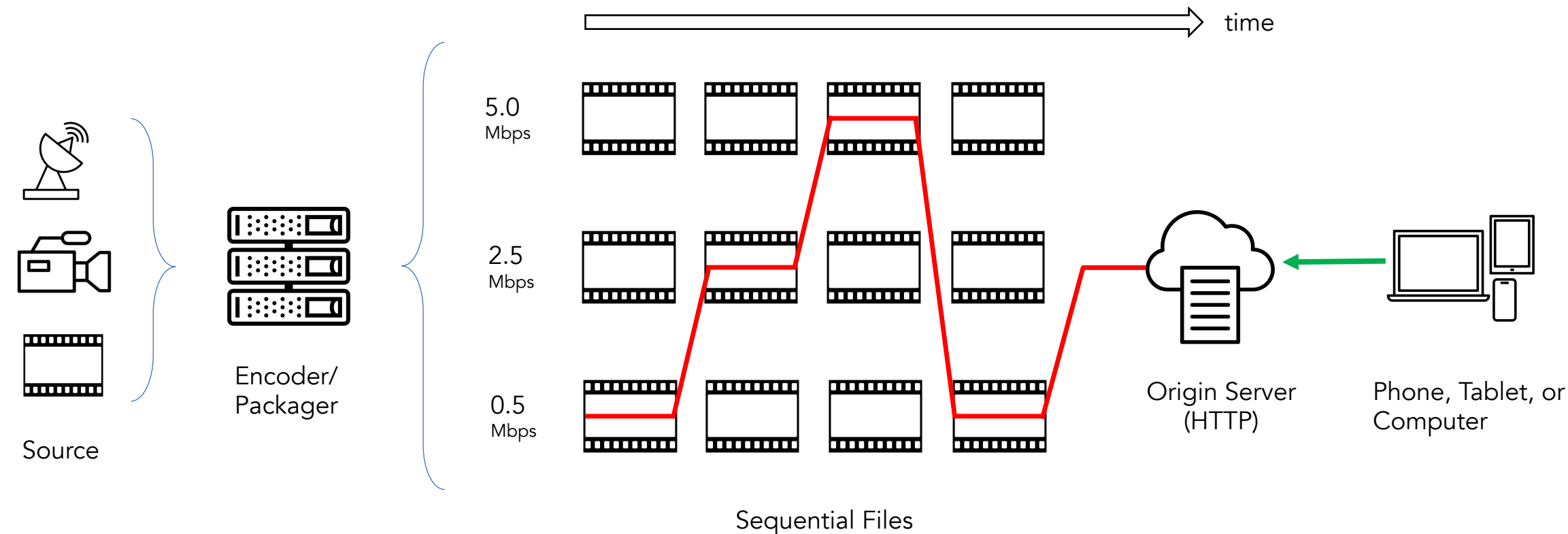


Client Control

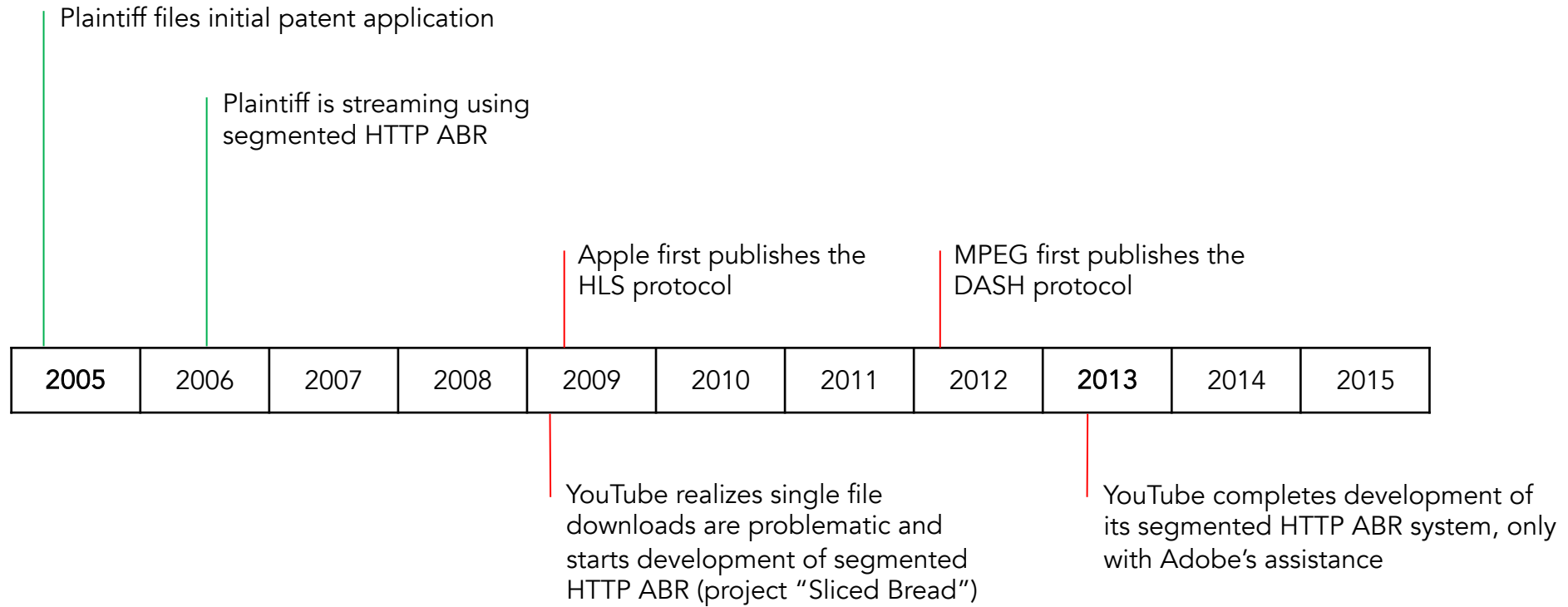
Here, a client controls the streaming process by requesting media streams according to its specific requirements (e.g., bandwidth, hardware).



Segmented HTTP Streaming: Multiple Quality Levels (ABR)



Technology Timeline



Section 101 Analysis

Step 1: Directed To and the Problems in the Prior Art

“We have approached the Step 1 ‘directed to’ inquiry by asking “what the patent asserts to be the ‘focus of the claimed advance over the prior art.’”

TecSec, Inc. v. Adobe Inc., 978 F.3d 1278, 1292 (Fed. Cir. 2020) (citations omitted).

“The Step 1 ‘directed to’ analysis . . . depends on an **accurate** characterization of what the claims require and of what the patent asserts to be the claimed advance. [These] . . . characterizations [are] crucial to the sound conduct of the inquiries into the problem being addressed and whether the line of specificity of solution has been crossed.”

Id. (emphasis added).

Step 1: Directed To

Plaintiff: “client-centric processing and playback of segmented multimedia on mobile devices over wireless **networks**”

Opp. at 1 (emphasis added).

Defendants: “transmitting and playing back multimedia solely using generalized steps performed using conventional **computer activity**”

Mot. at 5 (emphasis added).

Step 1: Plaintiff's Identification of Problems in the Prior Art

Sub-optimal playback. Black screens, popping sounds, & other artifacts.

Opp. at 3 citing Compl. at ¶ 6 (citing Christian Pillsbury, *Gone in a Flash: a brief history of HTTP Adaptive Streaming*, MUX (Oct. 10, 2022)), ¶58 (citing Google I/O 2013 - Adaptive Streaming for You and YouTube at 12:41-13:05).

No Adaptation to Wireless Network Conditions. Bandwidth limitations resulted in “very high latency.” Protocols at the time (e.g., RTMP) not designed to “adapt” the stream based on network conditions of a specific client/player.

Opp. at 2 citing 3:46-47; Opp. at 2-3 citing Compl. at ¶ 4 citing Pillsbury, *supra*.

Server-based systems. Mobile device streaming “centered on a server monitoring and controlling the streaming process” which required architectures that were “complex, data intensive, expensive, and saddled with additional unnecessary functions.”

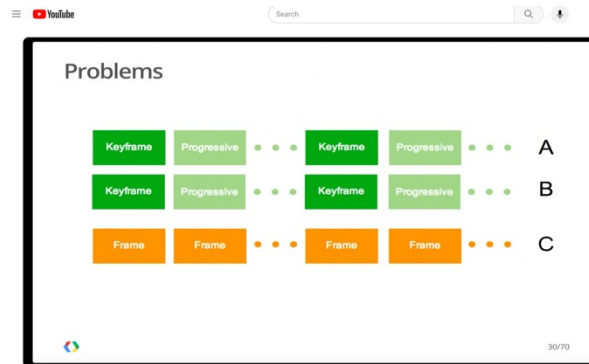
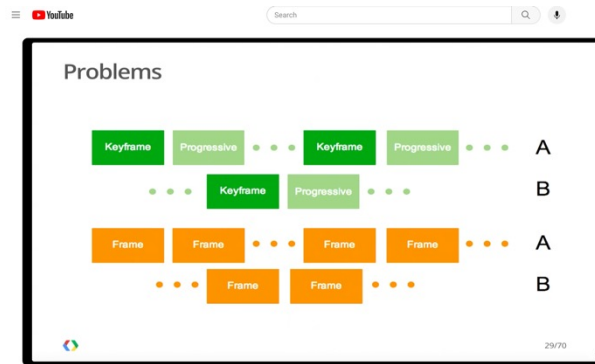
Opp. at 3 citing Compl. at ¶ 5, ¶ 54 (citing Pillsbury, *supra*).

Diversity of mobile devices. Different devices had distinct “technological needs and capabilities, such as different screen sizes, resolutions, and processor[s],” thus streaming “target[ed] the least common denominator in terms of hardware and bandwidth.”

Opp. at 3 citing Compl. at ¶¶ 3, 52 (citing Krešimir Fertalj & Marko Horvat, *Comparing Architectures of Mobile Applications*, at 1 (2007)).

Step 1: Defendants Identify Same Prior Art Problems and Their Infringing Solution

Defendants' systems (HLS and MPEG-DASH) postdate the '849 Patent, but claim to solve same problems:



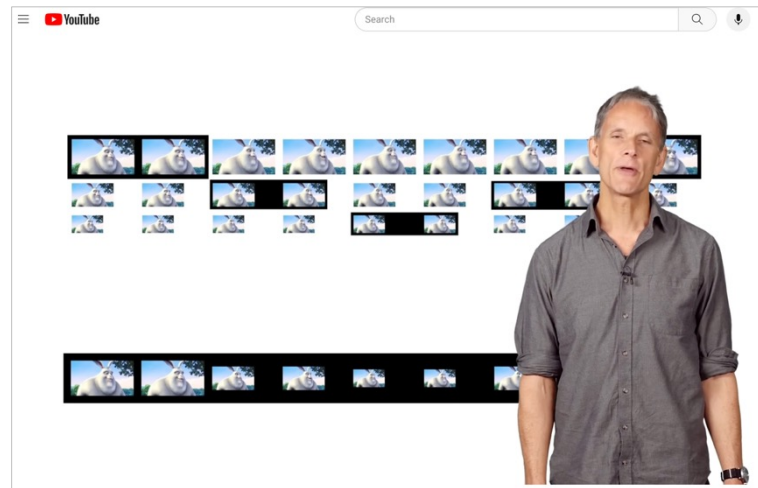
Upshifts or downshifts in quality levels would result in video artifacts ("[Y]ou'd either get black flashes or you'd go back in time") and audio degradation ("[Y]ou're making pops and glitches in people's ears. This is bad.") because the client was required to wait until the next time alignment during which the stream exhibited negative characteristics.

At the 2013 I/O conference, Defendants announced their solution to the world: first encode all the data to make it time aligned, and then jump the stream at key locations, thereby providing a fluid video broadcast "to really improve the experience."

Opp. at 4 citing Compl. at ¶¶ 57-59 pertaining to Claim 4 (citing Google I/O 2013 - Adaptive Streaming for You and YouTube at 12:41-45; 12:58-13:05; 13:29-40).

Step 1: Defendants Identify Same Prior Art Problems and Their Infringing Solution

Defendants' systems (HLS and MPEG-DASH) postdate the '849 Patent, but claim to solve same problems:



- Server based systems
- Adaption to network conditions
- Diversity of mobile devices

“[C]onnectivity can be flaky and changeable, and bandwidth is often limited. To cope with real world connectivity . . . you deliver video in segments over a normal HTTP connection. Each segment is made available at a variety of bit rates, resolutions, and formats. Depending on the bandwidth and device capabilities, the client chooses the best possible version . . . With all the advantages of HTTP, without the disadvantages of a traditional streaming server.”

Opp. at 1 citing Compl. at ¶26 (citing Shaka Player: High Performance Video for the Web (2015) at 0:39-1:21).

Step 1: 3rd Parties Identify Same Persistent Prior Art Problems

Third Party Statement: Unrebutted by Defendants

It is well documented that “there was nothing that even remotely resembled a ‘stream’ in HTTP in 2008, let alone anything that was designed specifically to help with streaming media.”

Opp. at 3 citing Compl. ¶122 (quoting Christian Pillsbury, *Gone in a Flash: a brief history of HTTP Adaptive Streaming*, MUX (Oct. 10, 2022)).

The Patent's Specification Is Relevant to a 101 Analysis

Step 1: Claims Considered in Light of the Specification

"[T]he 'directed to' inquiry applies a stage-one filter to claims, **considered in light of the specification**, based on whether 'their character as a whole is directed to excluded subject matter.'"

Enfish LLC v. Microsoft Corp., 822 F.3d 1327, 1335 (Fed. Cir. 2016) (quoting *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346) (emphasis added); accord *TecSec, Inc. v. Adobe Inc.*, 978 F.3d 1278, 1292 (Fed. Cir. 2020).

"The necessity of describing the claims in such a way is **underscored by the specification's emphasis** that 'the present invention comprises a flexible, self-referential table that stores data. . . . Moreover, our conclusion that the claims are directed to an improvement of an existing technology is **bolstered by the specification's teachings** that the claimed invention achieves other benefits over conventional databases, such as increased flexibility, faster search times, and smaller memory requirements.'"

Id. (emphasis added).

Step 1: Claims Considered in Light of the Specification

“The ‘directed to’ inquiry may also involve looking to the specification to understand ‘the problem facing the inventor’ and, ultimately, what the patent describes as the invention.”

Entangled Media, LLC v. Dropbox Inc., No. 23-CV-03264-PCP, 2024 WL 575277, at *6, n. 3 (N.D. Cal. Feb. 13, 2024) quoting *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 766 (Fed. Cir. 2019).

“The Federal Circuit emphasized that the specification in that patent clarified that its claims ‘disclose an improved user interface for electronic devices, particularly those with small screens,’ resulting in increased speed of a user's navigation.”

Id. at *7 describing reasoning in *Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356, 1362 (Fed. Cir. 2018).

Step 1: The Five Parts of '849 Patent Streaming



Receive discretely segmented audio and video

7:57-64 ("[T]he input stream is . . . split according to a specified interval, such as 10 seconds . . ."); 3:7-9 ("multimedia object creator produces discrete multimedia objects from video and audio segments of a continuous stream.")



Segmented audio and video has an encoding rate

Claim 1 (" . . . audio and video signals . . . with an encoding rate . . ."); 3:41-43 (referencing in the context of an object parameter, the "sample rate" of a data stream)



Segments Associated with stream qualities and URLs form Multimedia Objects

6:32-37 ("This process encodes a Supplied Identification to each multimedia object to identify the transport protocol, source host, path and number of objects of a particular multimedia stream."); 3:41-43 ("object parameters . . . (such as the size of the visual frame or the sample rate of the audio stream)"); 6:51-52 ("<transport>:/<host>/<path>/")



Request by Player Multimedia Objects located using HTTP

7:45-37 ("The transport mechanism for multimedia objects is assumed to be HTTP . . . however, other protocols which access content through file and directory structures could be used.")



Playback under client control by selecting from a plurality of file-based Multimedia Objects

14:7-12 ("This process encodes a Supplied Identification to each multimedia object to identify the . . . number of objects of a particular multimedia stream."); 3:17-20 ("Multimedia objects are discrete, and . . . the mobile client will . . . interact with any given media sequence on a per object basis.")



Sequentially based on an index

6:66-67 (the "<MOSeqNum>" field); 6:44-45 ("directory names terminating in numbers while indicating an unambiguous multimedia object count e.g. StarWars_1.mp4, StarWars_2.mp4, etc.")



Reflecting network bandwidth



Adjusting according to qualities of stream and host path identification

3:41-43 ("visual frame or the sample rate")



Using an optimized decoding process

12:61-63 ("The use of an effective integer-based algorithm [was] an absolute requirement when the decoding occur[ed] on constrained devices.")

Step 1: The Five Parts of '849 Patent Streaming



Example: Segments associated with stream qualities and URLs form Multimedia Objects

Supplied Identification for MultimediaObjects:

<transport>://<host>/<path>/

<MOSName><Delim><MOCCount>

Computed Identification for each multimedia object based on Supplied Identification:

<SuppliedID>/

<MOSName>.<MOSSeqNum><Delim><MOType>

<transport>: protocol used to transmit multimedia objects

<host>: Host content servers or serving the multimedia objects directly to mobile clients

<path>: Path to the multimedia object directory

<MOSName>: Name of the multimedia object sequence
(perhaps the name of a broadcast)

<MOCCount>: Number of multimedia objects (Integer greater than zero)

<MOSSeqNum>: The multimedia object's sequence number
(Integer greater than zero, less than or equal to MOCCount)

<Delim>: The delimiting character

<MOType>: encoding type e.g. mp4

6:51-7:3 (element numbers removed for clarity).

Step 1: The Five Parts of '849 Patent Streaming

1	0	1
0	1	0

Example: Using an optimized decoding process

[1] The $(N/2)$ input spectral coefficients are converted into complex numbers and stored into an array C of size $(N/4)$. There are many approaches to this step, however, the approach taken in the described implementation pairs coefficients with one coefficient becoming the real component and one becoming the imaginary component of a complex number. The following pseudo code describes this step:

```
for (n = 0; n < N/4; n++) {  
    Re(C[n]) = X[N/2 - 2*n];  
    Im(C[n]) = X[n];  
}
```

[2] This result is then multiplied with scaled complex numbers on the unit circle yielding an array of size $N/4$. This step is described with the following pseudo code:

```
for (n = 0; n < N/4; n++) {  
    Re(Z) = SQRT(2/N) * cos(2*Pi*(n + 1/8) / N)  
    Im(Z) = SQRT(2/N) * sin(2*Pi*(n + 1/8) / N)  
    Re(C[n]) = Re(C[n]) * Re(Z) - Im(C[n]) * Im(Z);  
    Im(C[n]) = Re(C[n]) * Im(Z) + Im(C[n]) * Re(Z);  
}
```

```
for (k=I; I<N/8; I+=2) {  
    x[2*I] = Im(C[N/8+I]);  
    x[2*I+1] = Re(-C[N/8-1-I]);  
    x[2*I+2] = Im(C[N/8+1+I]);  
    x[2*I+3] = Re(-C[N/8-2-I]);  
    x[2*I+N/4] = Re(C[I]);  
    x[2*I+N/4+1] = Im(-C[N/4-1-I]);  
    x[2*I+N/4+2] = Re(C[I+1]);  
    x[2*I+N/4+3] = Im(-C[N/4-2-I]);  
    x[2*I+N/2] = Re(C[N/8+I]);  
    x[2*I+N/2+1] = Im(-C[N/8-1-I]);  
    x[2*I+N/2+2] = Re(C[N/8+1+I]);  
    x[2*I+N/2+3] = Im(-C[N/8-2-I]);  
    x[2*I+N/2+N/4] = Im(-C[I]);  
    x[2*I+N/2+N/4+1] = Re(C[N/4-1-I]);  
    x[2*I+N/2+N/4+2] = Im(-C[I+1]);  
    x[2*I+N/2+N/4+3] = Re(C[N/4-2-I]);  
}
```

16:25-40;16:65-17:16.

Step 2: Plaintiff's Unrebutted Factual Allegations Preclude Dismissal

"[C]ourts may look to allegations of inventiveness in a complaint, even if they do not specifically cite the specification, so long as they are not 'wholly divorced from the claims or the specification.'"

BSD Crown, Ltd. v. Twitch Interactive, Inc., No. 3:23-CV-00057-WHO, 2024 WL 332887 (N.D. Cal. Jan. 29, 2024), at *10 quoting *Cellspin Soft, Inc. v. Fitbit, Inc.*, 927 F.3d 1306, 1317 (Fed. Cir. 2019)

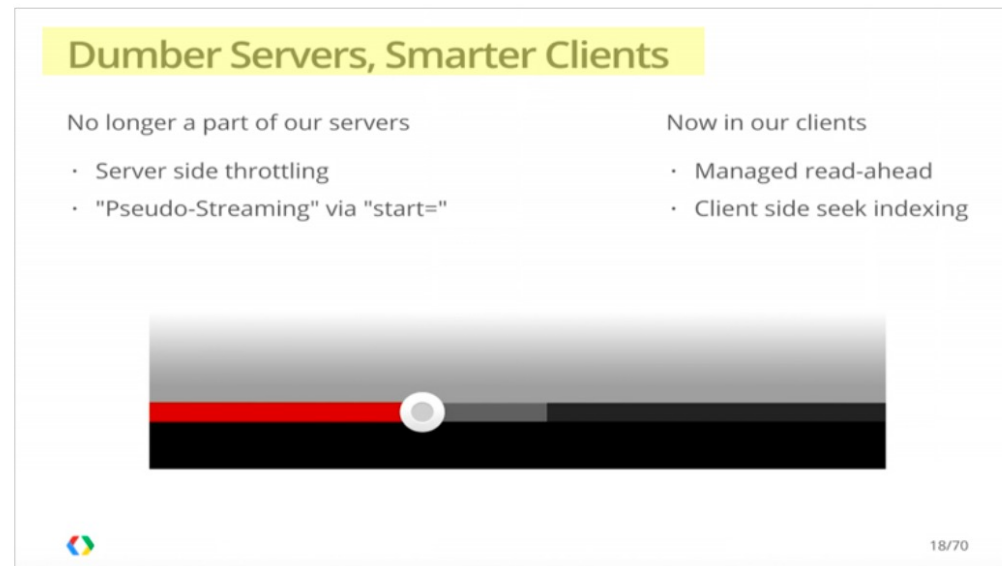
"'[P]lausible factual allegations that the claims include inventive concepts' [are] sufficient to preclude dismissal under Rule 12(b)(6) [where] the claim language, the written description, and the . . . complaint describe[] how the patent's particular arrangements of elements provide[] for a technical improvement over prior art."

Entangled Media, LLC v. Dropbox Inc., No. 23-CV-03264-PCP, 2024 WL 575277, 2024 WL 575277 (N.D. Cal. Feb. 13, 2024), at *8 (quoting *Cooperative Ent., Inc. v. Kollektive Tech., Inc.*, 50 F.4th 127, 135-36 (Fed. Cir. 2022))

Step 2: Plaintiff's Client Centric Focus Was Inventive

Google's own 2013 statements: Unrebutted by Defendants

To fully exploit the benefits of an ABR system, streaming had to be controlled by the client, not media server. This eureka moment occurred for Google at the 2013 I/O conference, where it asserted: "Dumber Servers, Smarter Clients."



Opp. at 4 citing Compl. at ¶56 (citing Google I/O 2013 - Adaptive Streaming for You and YouTube.

Step 2: Plaintiff's HTTP ABR Streaming Was Inventive

Google's own 2013 statements: Unrebutted by Defendants

According to YouTube, "One of the core axioms of engineering work at YouTube . . . is [that] playing videos is hard, surprisingly hard." To develop a fully functional ABR system (with Adobe's help), Defendants stated that it "took us . . . 4 years [for this project] from start to finish more or less – we spent months finding bugs and . . . launching experiments and trying to figure out where all the problems" were.

Opp. at 4 citing Compl. at ¶24 (citing Google I/O 2013 - Adaptive Streaming for You and YouTube, at 11:54-12:1012; 17:30-17:42).

Step 2: Plaintiff's Discretely Segmented Streaming Was Inventive

Google's own 2013 statements: Unrebutted by Defendants

At the 2013 I/O conference, Defendants explained that before acquiring ABR technology from Adobe, it was "delivering video in giant loaves of bread" to the end user. After incorporating sliced video into their streaming services, Defendants pronounced this technology as "The New World."



Opp. at 4 citing Compl. at ¶23 (citing Google I/O 2013 - Adaptive Streaming for You and YouTube, at 2:52 and 3:12).

Step 2: Plaintiff's Object Parameters that Tailor Mobile Streaming Was Inventive

Google's own 2010 statements: Unrebutted by Defendants

Mobile streaming is unique. Defendants had to address the "hardware . . . limitations that prevented the mobile experience from keeping up with YouTube on desktop."

Compl. at ¶125 citing ECF No. 1-5, Andrey Doronichev (Product Manager), *YouTube Mobile gets a kick start*, YouTube Official Blog (July 7, 2010).

Step 2: Plaintiff's Optimized Decoding Was Inventive

Third Party Statement: Unrebutted by Defendants

In December 2005, ARM Ltd., the primary microprocessor manufacturer at the time for mobile phones, believed Withrow's technology provided a highly optimized, true MPEG4 (and for audio true AAC) decoder for mobile clients possessing a "unique" adaptive rate media object transmission model.

Opp. at 13 citing Compl. at ¶14.

Factual Disputes

Critical Factual Disputes Preclude Dismissal

“[T]he Court must ‘accept all factual allegations in the complaint as true and construe the pleadings in the light most favorable’ to the non-moving party.”

Entangled Media, LLC v. Dropbox Inc., No. 23-CV-03264-PCP, 2024 WL 575277, at *3 (N.D. Cal. Feb. 13, 2024) (J. Pitts) (quoting *Rowe v. Educ. Credit Mgmt. Corp.*, 559 F.3d 1028, 1029–30 (9th Cir. 2009)).

Patent eligibility can only be “determined on the pleadings . . . when there are no factual allegations that, when taken as true, prevent resolving the eligibility question as a matter of law.”

Data Engine Techs. LLC v. Google LLC, 906 F.3d 999, 1007 (Fed. Cir. 2018).

Factual Disputes That Preclude Dismissal

Topic	Plaintiff Position	Defendants Position	Relevance
Bit-streaming is prior art unrelated to the '849 patent.	The '849 Patent described the prior art media systems as: (1) "[b]it streaming [which was] the standard method of transmitting audio or video to cell phones," but required "bits [to be] buffered and then decoded"; (2) downloading 'entire video files'; or (3) downloading only a portion of a large file 'to a point where' playback could begin." Opp. at 2 citing 2:19-24.	"'http streaming' [is] an aspect of 'bit streaming[,] the standard method of transmitting audio or video to cell phones over wireless networks." Rep. at 6 citing 2:19-24	Segmented HTTP file-based streaming is an improvement over long held problems in the prior art.
Subsidiary claim construction factual dispute*: How would a POSITA understand "optimized decoding processes"?	The patent describes several optimized decoding methodologies over nearly four and a half pages. 9:63-18:54, including pseudo code for an Inverse Discrete Cosine Transform. 16:25-40; 16:65-17:16.	"The element just claims the functional result of optimized decoding, without any . . . explanation of how those functional results occur." Mot. at 6.	The '849 Patent provides an extensive and detailed explanation of how optimized decoding is accomplished for purposes of mobile device streaming. Also, a point of innovation.
Subsidiary claim construction factual dispute*: Would a POSITA understand HTTP to be "stateless"?	HTTP is stateless. Opp. at 7 citing 7:45-37; Compl. at ¶ 11 ("Hyper Text Transfer Protocol ("HTTP") . . . is a stateless means of communication.").	"[T]he claim itself says nothing about a 'stateless HTTP protocol.'" Rep. at 6.	Plaintiff's pleadings provide support that HTTP is stateless. This is a point of innovation.
Segments are not data packets.	These "segments could not be mere 'data packets,' as in the prior art." Opp. at 5.	"Claim 1 likewise does not require that the segments be files, rather than "mere 'data packets.'" Rep. at 3.	Defendants conflate bit streaming with segmented HTTP streaming to rebut (Rep. at 6) the Complaint's assertion that "it was contrarian at the time to use stateless HTTP protocol as opposed to expensive stateful servers . . . to stream data grouped as multimedia objects, with associated metadata . . . instead of basic data packets. Opp. at 23-24.

* *Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1338 (Fed. Cir. 2008) ("Understandings that lie outside the patent documents about the meaning of terms to one of skill in the art or the science or state of the knowledge of one of skill in the art are factual issues.") (emphasis added).

101 Claim Interpretation Issues

Term	Plaintiff's Position	Defendants' Position
Segments	Segments means "discretely segmented files." Opp. at 5. Intrinsic or Extrinsic Support 3:7-9 ("The multimedia object creator produces discrete multimedia objects from video and audio segments of a continuous stream."); 7:45-48 ("The transport mechanism for multimedia objects is assumed to be HTTP . . . however, other protocols which access content through file and directory structures could be used."); (7:63-64, "split according to a specified interval, such as 10 seconds"); see also Claim 2 ("The method of Claim 1, wherein the transmission of the multimedia objects is carried out by protocols that can serve files in a directory.").	None Intrinsic or Extrinsic Support None
Object Parameters	Object parameters means "qualities associated with the stream." Opp. at 15. Intrinsic or Extrinsic Support 3:41-43 (object parameters . . . (such as the size of the visual frame or the sample rate of the audio stream).").	None Intrinsic or Extrinsic Support None
Supplied Host Path Identification	TO BE ADRESSED AT CLAIM CONSTRUCTION Intrinsic or Extrinsic Support 3:30-34 ("[T]he transport mechanism for the multimedia objects is assumed to be HTTP"); 6:51-52 ("Supplied Identification for MultimediaObjects: <transport > : // < host > / < path > /").	None Intrinsic or Extrinsic Support None
Optimized Decoding Process	TO BE ADRESSED AT CLAIM CONSTRUCTION Intrinsic or Extrinsic Support 16:25-40 (pseudo cade); 16:65-17:16 (pseudo code); 12:61-63 ("The use of an effective integer-based algorithm [was] an absolute requirement when the decoding occur[ed] on constrained devices.").	None Intrinsic or Extrinsic Support None

Defendants' Claim Analysis Is Deficient

Claim 1 (141 total words)

[pre] 1. A method comprising:

[a.i] receiving audio and video segments encoded in a digital encoding format and with an encoding rate;

[a.ii] wherein, said audio and video segments are associated with object parameters and supplied host path identification to form multimedia objects;

[b.i] requesting by a multimedia player, transmission of said multimedia objects; [b.ii] wherein said multimedia objects are located using http and received by said multimedia player from servers using a wireless connection;

[c.i] playing back received multimedia objects by the multimedia player, [c.ii] wherein the multimedia player is configured to play multimedia objects in a sequence such that fluidity, video quality and audio quality are maintained by selecting a plurality of said multimedia objects that reflect available network bandwidth, [c.iii] autonomously adjusting said selection and playback according to the multimedia object parameters and supplied host path identification, and by

[d] utilizing optimized decoding processes to maintain quality playback.

Defendants Ignore Claim Elements (46 words remain)

[pre] 1. A method comprising:

[a.i] receiving audio and video segments encoded in a digital encoding format and with an encoding rate;

[a.ii] wherein, said audio and video segments are associated with object parameters and supplied host path identification to form multimedia objects;

[b.i] requesting by a multimedia player, transmission of said multimedia objects; [b.ii] wherein said multimedia objects are located using http and received by said multimedia player from servers using a wireless connection;

[c.i] playing back received multimedia objects by the multimedia player, [c.ii] wherein the multimedia player is configured to play multimedia objects in a sequence such that fluidity, video quality and audio quality are maintained by selecting a plurality of said multimedia objects that reflect available network bandwidth, [c.iii] autonomously adjusting said selection and playback according to the multimedia object parameters and supplied host path identification, and by

[d] utilizing optimized decoding processes to maintain quality playback.

Defendants Further Oversimplify Claim Elements (24 words remain)

[pre] 1. A method comprising:

[a.i] receiving audio and video segments encoded [multimedia] in a digital encoding format and with an encoding rate; [a.ii] wherein, said audio and video segments are associated with object parameters and supplied host path identification to form multimedia objects;



Mot. at 5, 6*, 11.

[b.i] requesting by a multimedia player, transmission of said multimedia objects; [b.ii] wherein said multimedia objects are located using http and received by said multimedia player from servers using a wireless connection;

Mot. at 5, 6, 11.

[c.i] playing back [the] received multimedia objects by the multimedia player, [c.ii] wherein the multimedia player is configured to play multimedia objects in a sequence such that fluidity, video quality and audio quality are maintained by selecting a plurality of said multimedia objects that reflect available network bandwidth, [c.iii] autonomously adjusting said selection and playback according to the multimedia object parameters and supplied host path identification, and by

Mot. at 5.

[d] u[sing] optimized decoding processes to maintain quality playback.

* At Mot. 6, Defendants propose a different interpretation: "'requesting' multimedia data with 'object parameters' and identification information."

Defendants' Interpretation of Claim 1

[pre] 1. A method comprising:

[a.i] receiving encoded [multimedia] segments; [b.i] requesting transmission of multimedia; [c.i] playing back [the] received multimedia; and [d] u[sing] optimized decoding processes to maintain quality playback.

Mot. at 5

Comparison of Claim 1 [a.i and a.ii] to Defendants' Interpretation

Defendants: [a.i] receiving encoded [multimedia] segments

Patent: [a.i] receiving audio and video **segments** encoded in a digital encoding format and **with an encoding rate**; [a.ii] wherein, said audio and video **segments are associated with object parameters and supplied host path identification to form multimedia objects**;

What is missing?

- **Discrete segmented files:** Defendants fail to elaborate that for stateless segmented HTTP streaming, segments cannot be prior art data packets as that would render the invention inoperable.
- **An encoding rate:** This sets the pace of the data stream. ABR requires assigned rates to compare against available bandwidth in [c.i and ii].
- **Multimedia Object formation:** These data structures are formed by the association of media segments with object parameters and host path identification. Multimedia objects allow the client player to select media streams based on that device's *specific* bandwidth constraints and hardware limitations.

Comparison of Claim 1 [b.i and b.ii] to Defendants' Interpretation

Defendants: [b.1] requesting transmission of multimedia

Patent: [b.i] requesting **by a multimedia player**, transmission of said multimedia **objects**; [b.ii] wherein said multimedia **objects** are **located using http** and received by said multimedia player from servers using a **wireless connection**;

What is missing?

- **Multimedia player:** Defendants omit an improvement over the prior art – client centric control.
- **Multimedia Objects:** The player does not receive mere multimedia, Defendants oversimplify the data by ignoring that multimedia objects are created by the association of segments, object parameters, and host path identifications (e.g., URL).
- **HTTP:** HTTP location of multimedia objects is only possible because of the contrarian use of segmented discrete files in streaming.
- **Wireless:** Wireless streaming is complex due to the diversity of devices, thus a mobile device can use object parameters to select the proper stream based on its hardware limitations.

Comparison of Claim 1 [c.i, ii, and iii] to Defendants' Interpretation

Defendants: [c.i] playing back [the] received multimedia

Patent: [c.i] playing back received multimedia **objects** by the multimedia player, [c.ii] wherein the **multimedia player is configured to play** multimedia objects **in a sequence** such that fluidity, video quality and audio quality are maintained **by selecting a plurality of said multimedia objects that reflect available network bandwidth**, [c.iii] **autonomously adjusting said selection and playback according to the multimedia object parameters and supplied host path identification**

What is missing?

- **Multimedia Objects**: The player does not receive mere multimedia, it receives multimedia objects
- **Multimedia player**: Defendants omit an improvement over the prior art – client centric control
- **Sequence**: Segmented stateless HTTP streaming does not, without more, account for the order of media files. Thus, this element constrains the stream and ties with the Patent's teaching of an index.
- **Plurality of multimedia objects reflecting bandwidth**: This element provides the ABR by comparing the assigned encoding rate to available bandwidth, for selecting from the *plurality* of multimedia objects.
- **Autonomous adjustment**: The player select the multimedia objects based on object parameters to account for a device's unique hardware limitations.

Defendants' Cases Are Distinguishable

Helios is Distinguishable

Step 1: “claim is directed to requesting data and providing data in response to the request.” *Helios Streaming, LLC v. Warner Bros. Discovery*, No. 8:23-CV-01575-MCS-MAA, 2024 WL 1824996, at *6 (C.D. Cal. Jan. 30, 2024). No explanation of how the media’s format, its processing, or transmission functioned. Only improvement over the prior art was to “improve computer network functionality.”

Step 2: “[P]leadings lack particularity as to how the elements . . . are unconventional.” *Id.* at 7.

Withrow ‘849 Patent Claim 1 is different:

1. Use of contrarian discrete segmented files
2. Assigned encoding rate to enable ABR
3. Create multimedia objects through association of segments and object parameters
4. Use of HTTP for segmented streaming
5. Sequential playback of files with the use of an index
6. Comparing the assigned encoding rate to the available bandwidth to maintain fluidity and quality
7. Use of object parameters to assess best stream for a mobile device
8. Use optimal decoding as described in the patent (e.g., integer based IDCT)

Hawk Tech. is Distinguishable

Step 1: “The claims are directed to a method of receiving, displaying, converting, storing, and transmitting digital video “using result-based functional language.”” *Hawk Tech. Sys., LLC v. Castle Retail, LLC*, 60 F.4th 1349, 1356 (Fed. Cir. 2023). No explanation how the improvement of “conserving bandwidth while preserving data” was achieved, nor “do the claims (or the specification) explain ‘what th[e] [claimed] parameters are or how they should be manipulated.’” *Id.* at 1357 (emphasis added).

Step 2: Conventional components in a conventional manner.

Withrow ‘849 Patent Claim 1 is different:

1. The interlocking elements of Claim 1, together with the specification, describe how Withrow’s mobile streaming invention solved the long-held problems in the streaming arts.
2. Withrow’s use of elements in an unconventional manner, such as segmented HTTP file streaming, together with Defendants’ acknowledgements that the innovations were unique, establish that *Alice* Step 2 confirms the eligibility of the ‘849 Patent.