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 20 *Piranha Media Distribution, LLC*

21 **UNITED STATES DISTRICT COURT**
 22 **FOR THE CENTRAL DISTRICT OF CALIFORNIA**
 23 **WESTERN DIVISION**

24 PIRANHA MEDIA DISTRIBUTION, LLC,
 25
 26 Plaintiff,
 27
 28 v.
 HULU, LLC,
 Defendant.

Case No. 2:24-cv-00498

**COMPLAINT FOR PATENT
 INFRINGEMENT**

DEMAND FOR JURY TRIAL

1 Plaintiff Piranha Media Distribution, LLC (“Piranha Media” or “Plaintiff”), by
2 its attorneys, demands a trial by jury on all issues so triable against Hulu, LLC
3 (“Hulu” or “Defendant”) and alleges the following, on information and belief:

4 **NATURE OF THE ACTION**

5 1. This is a civil action for infringement of U.S. Patent Nos. 10,986,403
6 (“the ’403 patent”) and 11,463,768 (“the ’768 patent”), collectively referred to as the
7 “Asserted Patents”, under the patent laws of the United States, 35 U.S.C. § 271.

8 2. The Asserted Patents embody significant advancements in the digital
9 media streaming industry. They involve innovative methods for the seamless
10 integration of advertising content within digital media streams, enhancing user
11 experience and ensuring ad viewership. These technologies are alleged to be crucial
12 to the operation and success of Hulu’s ad-supported streaming platform.

13 3. Piranha Media seeks redress for Hulu’s alleged unauthorized use of
14 these patented technologies, which are fundamental to the competitive digital
15 streaming industry. This action aims to enforce Piranha Media’s intellectual property
16 rights and obtain appropriate remedies for the alleged infringement.

17 **THE PARTIES**

18 4. Piranha Media is a corporation organized under the laws of the State of
19 Delaware with a business address at 2158 27th Avenue, San Francisco, California
20 94116.

21 5. Upon information and belief, Hulu is a company organized and existing
22 under the laws of the State of Delaware with a place of business at 2500 Broadway
23 Street, Santa Monica, California 90404.

24 6. Upon information and belief, Hulu is a leading online streaming service
25 company that offers many films and television series from various studios, in addition
26 to Hulu original programming.

27
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JURISDICTION AND VENUE

1
2 7. This Court has jurisdiction over the subject matter of this action
3 pursuant to 28 U.S.C. §§ 1331 and 1338(a).

4 8. Jurisdiction and venue for this action are proper in the Central District
5 of California in accordance with 28 U.S.C. §§ 1391 and 1400(b).

6 9. This Court has personal jurisdiction over Hulu. Hulu has purposefully
7 engaged in substantial business within this Judicial District, including the
8 commission of acts that give rise to this lawsuit, such as testing and operating its ad-
9 supported streaming service.

10 10. Additionally, Hulu maintains a regular and established place of business
11 at 2500 Broadway Street, Santa Monica, California 90404, within the Central District
12 of California, further establishing this Court’s jurisdiction over Hulu.

13 11. Venue is proper in this Judicial District under 28 U.S.C. §§ 1391(b) and
14 (c) and §1400(b). Hulu’s engagement in business activities and acts of infringement
15 in this District justify the venue’s appropriateness for this action.

INTRADISTRICT ASSIGNMENTS

16
17 12. Pursuant to Local Rule 3-2(c), this case involves intellectual property
18 rights and is subject to assignment on a district-wide basis.

BACKGROUND

19
20 13. The provision of media content and advertisements streamed to user
21 devices has over time become increasingly prevalent as more consumers choose
22 streaming media services over physical media. This has resulted in a multibillion-
23 dollar industry.

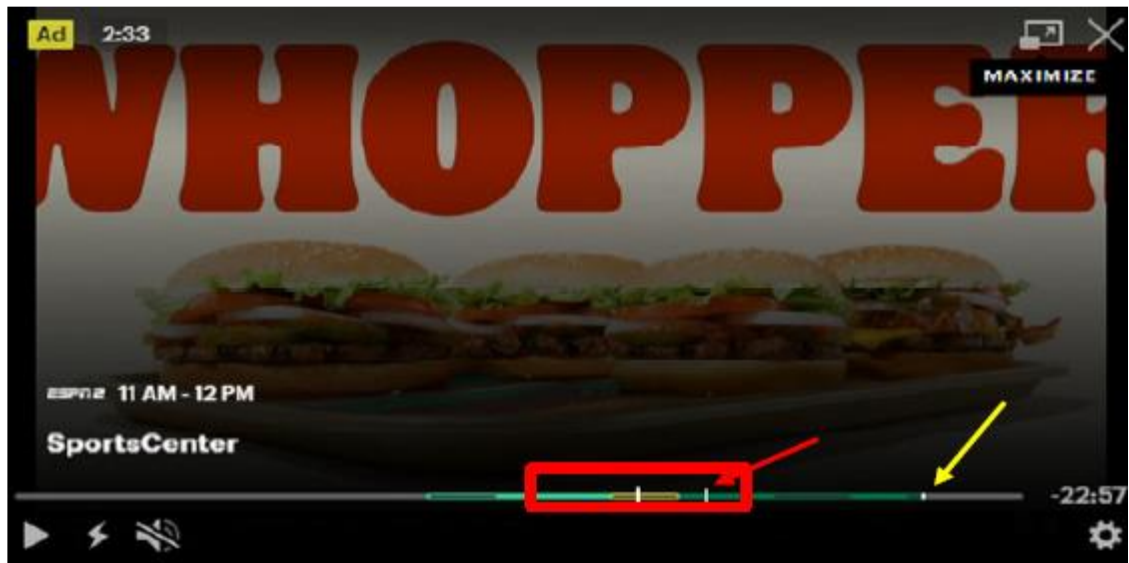
24 14. Over-the-top (OTT) video platforms like Hulu provide subscribers with
25 ad-supported subscription plan options for television and movie services. These ad-
26 supported plans stream media content interspersed with advertising content to
27 subscribers.
28

1 15. According to an industry report in May 2023, one-quarter of all U.S.
2 subscriptions to premium streaming services are ad-supported, and subscriptions to
3 ad-based plans are growing at a rate of 32% annually compared to just 19% for ad-
4 free plans. Because many subscribers will skip over ads when they can, Hulu has
5 implemented systems and software functions that force users to view ads that they
6 try to skip over.

7 16. Hulu’s ad-supported streaming system inserts advertising content into a
8 media stream, such as a video-on-demand program or a live network feed.

9 17. The ad insertion points in Hulu’s system are predetermined and visible
10 to users on the navigation time bar in the Hulu user interface, so that a user might try
11 to jump forward past an ad when watching video-on-demand (VOD) content or live
12 television. For example, a user could move the playback position in a live media
13 stream to “jump back” in a program to watch a portion of the content again or to
14 catch the beginning of a show already in progress.

15 18. If the user wishes to attempt to skip or jump forward past an
16 advertisement, for example after having jumped back or rewind to re-watch a
17 portion of the program, the user might try to move the playback position to a position
18 in the time bar that occurs after the ad. For example, in the annotated image below, a
19 Hulu subscriber has jumped back from a current play position (indicated by the
20 yellow arrow on the time bar) in an episode of SportsCenter, watched content
21 represented by the solid green rectangle on the time bar (partially within the red box),
22 and attempted to jump past the Whopper ad represented by the yellow rectangle in
23 the time bar to a new play position after the ad indicated by the red arrow. The
24 inventions described in the Asserted Patents can prevent users on ad-supported
25 subscription plans from skipping past ads by resequencing the ads in the content
26 stream (immediately at the new play position or some time thereafter) while still
27 allowing users control over the play position in the stream.
28



19. The Asserted Patents detail the process of integrating advertising content within a media stream, a technique designated as “intersplicing” in the patent documents. This method not only involves the incorporation of advertisements into the media stream but also their strategic repositioning within the stream. The purpose of this repositioning is to ensure that advertisements reach viewers, particularly in instances where users might typically skip or fast-forward through them.

20. Embodiments in the Asserted Patents perform intersplicing based on, inter alia, the users’ chosen navigation of the media content, *i.e.*, permitting users to jump around in ad-supported content, rather than having a fixed, broadcast-like presentation, and still present the ads at desired insertion points relative to the overall media presentation.

21. Due to increasing streaming subscription costs and the number of available streaming options, consumers are becoming selective in paying for ad-free streaming.

22. An overwhelming majority of Hulu’s user base, representing about 90% or 45 million subscribers, prefer the ad-supported tier of the service. This significant inclination towards ad-supported subscriptions is indicative of broader market trends, particularly in the context of rising costs affecting consumer choices in streaming services. *See Ashley Steves, Analysis: 90% of Hulu Customers Are on Ad-Supported*

1 *Plan as Rising Costs Force Consumers to Ad-Supported Streaming,*
2 TheStreamable.com (Aug. 2, 2023), [https://thestreamable.com/news/analysis-90-](https://thestreamable.com/news/analysis-90-percent-of-hulu-customers-are-on-ad-supported-plan-as-rising-costs-force-consumers-to-ad-supported-streaming)
3 [percent-of-hulu-customers-are-on-ad-supported-plan-as-rising-costs-force-](https://thestreamable.com/news/analysis-90-percent-of-hulu-customers-are-on-ad-supported-plan-as-rising-costs-force-consumers-to-ad-supported-streaming)
4 [consumers-to-ad-supported-streaming](https://thestreamable.com/news/analysis-90-percent-of-hulu-customers-are-on-ad-supported-plan-as-rising-costs-force-consumers-to-ad-supported-streaming) (last visited January 6, 2024).

5 23. The technology claimed and disclosed in the Asserted Patents is critical
6 to Hulu’s business because it ensures that Hulu profits from customers that choose
7 an ad-supported subscription as the ads are guaranteed to be played while still
8 allowing the subscriber navigational control over the content presentation, and Hulu
9 profits from the advertisers paying for ad time. Further, Hulu benefits from charging
10 a lower subscription fee for its ad-supported service, which attracts to the Hulu
11 ecosystem the subscribers that would not, at least initially, be willing to pay higher
12 fees for Hulu’s ad-free service.

13 24. Of Hulu consumers who accept ads, data shows that 74% of customers
14 do not have other ad-supported premium streaming services, indicating that Hulu is
15 one of or the only way advertisers can market to these consumers via this medium.

16 **THE ASSERTED PATENTS & PATENTED TECHNOLOGY**

17 **’403 PATENT**

18 25. Piranha Media is the lawful owner of all rights, title, and interests in the
19 ’403 patent, titled “Interactive Digital Media and Advertising Presentation Platform,”
20 including the right to sue and recover for infringement thereof.

21 26. The ’403 patent was duly and legally issued on April 20, 2021, naming
22 Philip M. Donian, Larry E. Henneman, Jr., and Michael M. Malione as the inventors.
23 A true and correct copy of the ’403 patent is attached as Exhibit A.

24 27. The ’403 patent primarily concerns the dissemination of audio, video,
25 and printed media through digital channels. The core of this patent lies in its
26 revelation of a unique system and methodology for the amalgamation of digital media
27 files with mandatory advertising segments. A key feature of this system is the
28 “intersplicer” component. This element is responsible for the sequencing and re-

1 sequencing of both media and advertisement content. Additionally, it encompasses
2 the capability of dynamically adjusting the placement of advertisements within the
3 media content stream, facilitated by one or more processors.

4 28. The claimed subject matter disables user interface commands at a digital
5 media player system during a play period and uses an intersplicer to order data blocks
6 of the digital media content and digital advertising content.

7 29. The intersplicer directly improves the functionality and processing of
8 the digital media player system, which in turn results in heightened control over the
9 insertion of digital advertising data blocks into the digital media content.

10 30. The claimed invention allows computer performance of a function not
11 previously performable by a computer (*e.g.*, disabling user interface commands at a
12 digital media player system during a resequenced play period).

13 31. The claims are directed to a specific combination of features configured
14 to improve the functionality of conventional digital media player systems. The
15 specific combination of features includes an intersplicer, a digital media player
16 system, a user interface, user navigation control, and the sequencing of digital media
17 content and digital advertising content.

18 32. This specific combination is sufficiently specific to integrate the
19 claimed subject matter into a practical application.

20 33. The claims of the '403 patent do not merely recite the performance of a
21 preexisting method of displaying digital media files with compulsory advertisements,
22 but rather are directed to specific technological improvements to allow for the wide
23 digital distribution of media content in a way that allows the free use of media
24 properties, on demand, while at the same time offering equitable return to the
25 copyright holder, and providing for a strict level of control over the enforcement of
26 license agreements on the part of the distributor. The claim elements describe a
27 technical solution to the problem of users attempting to skip over ad segments. The
28 claim limitations transform the computers and other devices on which the invention

1 is implemented into special-function devices that provide a technical solution to
2 problems with conventional digital media player systems.

3 34. The patented technology discloses an inventive feature that solves the
4 problem associated with a user bypassing sponsored content using the playback
5 controls, while giving the user some level of control to fast forward or reverse or
6 rearrange playback without completely circumventing the sponsored media.

7 35. The invention offers a technology-based solution by addressing the
8 technical problems to “adaptively regroup and re-sequence the insertion of ad blocks
9 extemporaneously (*i.e.* “on the fly”), in response to the consumer’s arbitrary direction
10 of the playback within the requested content, by means of playback controls.” ’403
11 patent, col. 15:6-10. This was not technologically achievable for media presentation
12 in the past.

13 36. The claim language captures this inventive concept, for example,
14 through reciting: “the alternate insertion position being adaptively selectable by the
15 intersplicer according to selection criteria defined by the one or more adaptive
16 preference placement rules taking into account the new play position and at least one
17 of a length of time associated with playing the digital media content, a number of
18 digital media data blocks of the digital media content to be played, and a point in
19 time the digital media content is to be played.” ’403 patent, claim 22.

20 37. Accordingly, each claim of the ’403 patent recites specific technological
21 improvements to the problem of users skipping over ad segments.

22 **’768 PATENT**

23 38. Piranha Media is the lawful owner of all rights, title, and interests in the
24 ’768 patent, titled “Adaptive Digital Media Content Presentation and Control
25 Platform,” including the right to sue and recover for infringement thereof.

26 39. The ’768 patent was duly and legally issued on October 4, 2022, naming
27 Philip M. Donian, Larry E. Henneman, Jr., and Michael M. Malione as the inventors.
28 A true and correct copy of the ’768 patent is attached as Exhibit B.

1 40. The '768 patent generally relates to the distribution of audio, video, and
2 print media content via digital replication and digital channels. For example, the
3 claims specify that an “intersplicer” component changes a predetermined
4 advertisement insertion point to an adapted insertion point, determines the adapted
5 insertion point based on an advertisement requirement, and requests content to be
6 played at the adapted insertion point.

7 41. The claims of the '768 patent do not recite a preexisting method of
8 displaying digital media files, but rather are directed to a specific technological
9 improvement. In one embodiment, the system includes a user interface, an
10 advertisement rotator, and an intersplicer. The user interface receives input from a
11 user for controlling a course of presentation of media content. The intersplicer
12 combines the media files with the ad files by providing control signals to the media
13 player, causing the media player to present the ad files with the selected media files.

14 42. The claim elements describe a technical solution to the problem of users
15 attempting to skip over ad segments. The claim limitations transform the computers
16 and other devices on which the invention is implemented into special-function
17 devices that provide a technical solution to the problems solved by the invention.

18 43. The patented technology includes inventive features that solve the
19 specific problem associated with a user bypassing sponsored content using the
20 playback controls, while giving the user some level of control to fast forward or
21 reverse or rearrange playback without completely circumventing the sponsored
22 media.

23 44. The invention offers a technology-based solution by addressing the
24 technical problems to “adaptively re-group and re-sequence the insertion of ad blocks
25 extemporaneously (i.e. “on the fly”), in response to the consumer’s arbitrary direction
26 of the playback within the requested content, by means of playback controls.” '768
27 patent, col. 15:15-18.
28

1 45. Claim 1 of the '768 patent, for example, captures this inventive concept,
2 for example, through reciting that the intersplicer is configured to:

3 change a predetermined advertisement insertion point in the
4 digital media content to an adapted advertisement insertion point
5 in the digital media content, in response to receiving a user input
6 to update a current play position in the digital media content to a
7 new play position in the digital media content, the adapted
8 advertisement insertion point determined by an adaptive
9 preference rule based on an advertisement requirement that
10 applies to the digital media system;

11 modify the adapted insertion point of digital advertising content
12 based on the advertisement requirement; and

13 request, from the advertisement rotator, digital advertising
14 content to be played at the adapted advertisement insertion point.

15 46. Similarly, the other claims of the '768 patent recite specific
16 improvements to the problem of users skipping over ad segments.

17 **COUNT 1 – INFRINGEMENT OF U.S. PATENT NO. 10,986,403**

18 47. Piranha Media incorporates by reference and re-alleges the foregoing
19 paragraphs as if fully set forth herein. The following evidence supports the claim of
20 infringement:

21 48. Upon information and belief, Hulu has directly infringed and continues
22 to directly infringe at least claim 22 of the '403 patent, literally and/or under the
23 doctrine of equivalents.

24 49. Evidence of infringement includes Hulu's services as described of its
25 system on the Hulu Tech blog, and Hulu's presentation of an advanced ad-insertion
26 architecture for the DASH Industry Forum standard, which Hulu helped draft.

27 50. Claim 22 of the '403 patent recites:

28 22. A computer-implemented method for controlling digital
 media presentations using an improved digital media player
 system, the method comprising:

 transmitting, by at least one remote system to a digital media
 player system, data comprising digital media content and digital

1 advertising content, the digital media player system having a user
2 interface and an intersplicer, the user interface configured to
3 allow a user to control a course of presentation of the digital
4 media content received, and the intersplicer for controlling one
5 or more insertion points of digital advertising content into the
6 digital media content;

7 sequencing the digital media content, using the intersplicer, the
8 sequencing comprising ordering one or more data blocks of the
9 digital media content into a content stream playable as audio or
10 visual content perceivable by the user, the content stream
11 comprising a media section that comprises at least some of the
12 digital media content, the content stream further comprising an
13 advertising block within which at least some of the digital
14 advertising content is scheduled to be presented during play, the
15 advertising block being arranged within the content stream at an
16 initially defined insertion position relative to the media section;

17 adaptively re-sequencing the content stream into a modified
18 content stream to reflect a user input comprising updating a
19 current play position to a new play position in the digital media
20 content detected at the digital media player system, the modified
21 content stream comprising an alternate insertion position of the
22 advertising block relative to the media section, the adaptively re-
23 sequencing comprising determining the alternate insertion
24 position using one or more adaptive preference placement rules
25 associated with the digital media content during play;

26 the alternate insertion position being adaptively selectable by the
27 intersplicer according to selection criteria defined by the one or
28 more adaptive preference placement rules taking into account the
new play position and at least one of a length of time associated
with playing the digital media content, a number of digital media
data blocks of the digital media content to be played, and a point
in time the digital media content is to be played

such that the alternate insertion position is positioned at a play
position in the digital media content that satisfies a condition
selected from:

the play position being a predetermined length of time after the
new play position,

the play position being a predetermined number of digital media
data blocks after the new play position, and

1 the play position being at a predetermined time of the hour after
2 the new play position;
3 causing presentation of the modified content stream at the digital
4 media player system during a play period associated with one or
5 more states of play;
6 causing adaptive presentation of a required part of the digital
7 advertising content at the alternate insertion point, instead of the
8 initially defined insertion position;
9 keeping a setting, in at least a first value to indicate presentation
10 of the required part of the digital advertising content is in
11 progress during presentation of the modified content stream; and
12 responsive to detecting the first value in the first memory,
13 disabling user interface commands comprising a user navigation
14 control that enables the user to alter a course of presentation of
15 the content stream.

16 51. The claimed invention controls the real-world experience for an end user
17 through adaptively selecting alternative sequenced insertion points for presenting the
18 data blocks of the digital media content and the digital advertising content.

19 52. As an example, the intersplicer can adaptively select the alternate
20 insertion position “according to selection criteria defined by the one or more adaptive
21 preference placement rules taking into account the new play position and at least one
22 of a length of time associated with playing the digital media content, a number of
23 digital media data blocks of the digital media content to be played, and a point in
24 time the digital media content is to be played.” ’403 patent, col. 49:2–9.

25 53. Further, the invention disables the user interface commands that allow
26 the user to alter the course of presentation of the content stream.

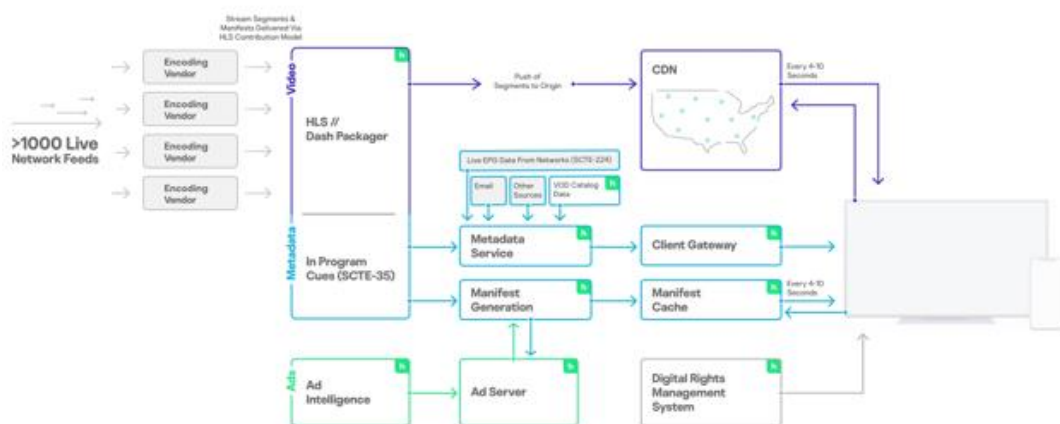
27 54. Disabling such navigational controls prevents the consumer from
28 skipping through the promotional material, for example.

55. In accomplishing these objectives, the claimed invention embodies a
specific combination of features that control the presentation of advertising content
rather than allowing a user to control the presentation.

1 56. The following paragraphs demonstrate how Hulu infringes at least
 2 claims 21 and 22 of the '403 patent. Hulu performs all of the claimed steps of claims
 3 21 and 22 and is a direct infringer by virtue of its making, selling, using, and testing
 4 of its system for providing ad-supported streaming service. Such infringing activities
 5 may involve the actions of Hulu's users that are attributable to Hulu, such as when
 6 Hulu's subscribers cause any of the claimed steps to be performed by the Hulu
 7 system, including Hulu's software, to receive Hulu's service. Hulu's subscribers'
 8 performance of those actions is attributable to Hulu such that Hulu is responsible for
 9 the infringement. For example, Hulu directs and controls the performance of certain
 10 subscriber actions by, among other things, conditioning its subscribers' ad-supported
 11 streaming service on its subscribers having to watch ads even if they attempt to skip
 12 or fast-forward past an ad.

13 57. Hulu's system for providing ad-supported streaming service is
 14 implemented based on DASH interoperability guidelines and the MPEG-DASH
 15 streaming standard. (See Kelly Capizzi, *Hulu Migrates to DASH*, InterDigital (July
 16 9, 2015), <https://www.interdigital.com/post/hulu-migrates-to-dash> (last visited
 17 January 6, 2024)). The diagram below from the Hulu Tech blog shows how Hulu
 18 implements its system.

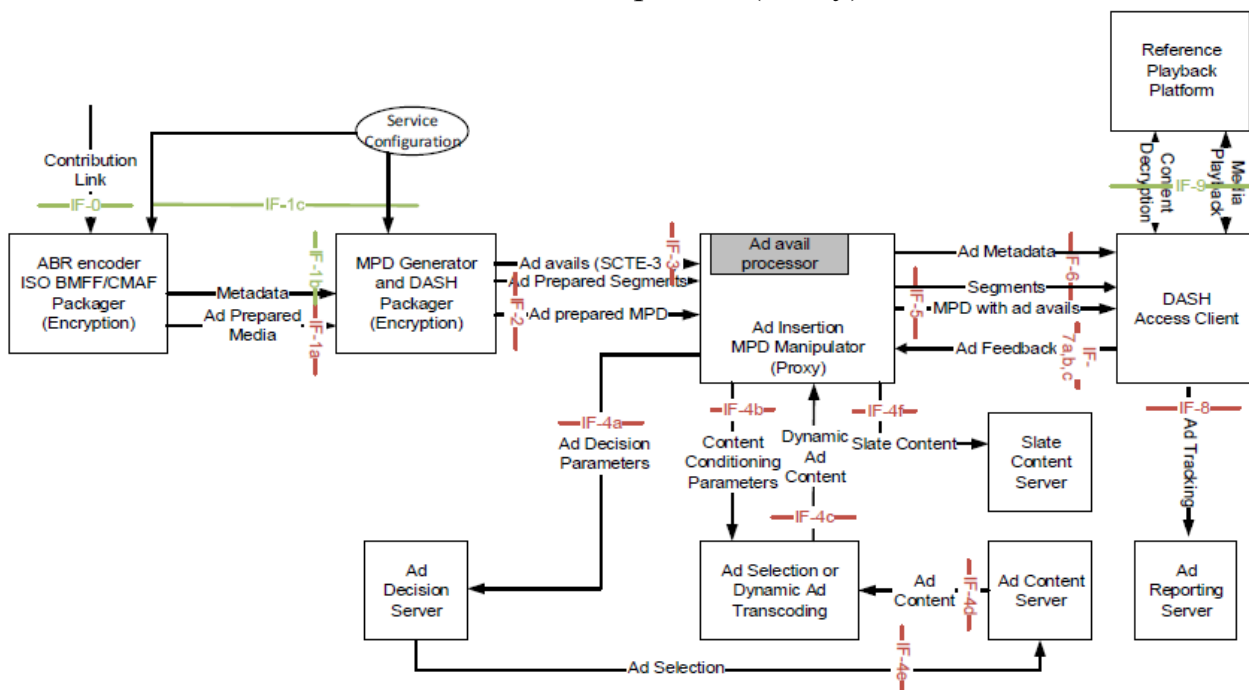
19 **Live OTT Service on Hulu**



27 This implementation is further explained in *The Anatomy of a Live OTT Service*, Hulu
 28 Tech blog, Medium (Sept. 18, 2018), <https://medium.com/hulu-tech-blog/the->

1 [anatomy-of-a-live-ott-service-c8f6078b24d3](#), (last visited January 6, 2024)
 2 [hereinafter Hulu Tech]). The manifest generation block in the Hulu Tech diagram
 3 above controls digital media presentations.

4 58. A diagram of the DASH architecture (“DASH diagram”) is reproduced
 5 below. There, the functionality of the manifest generation block is represented by the
 6 functional block “Ad Insertion MPD Manipulator (Proxy).”



18 DASH-IF IOP-5 V5.0.0, *DASH-IF Interoperability Points; Part 5: Ad Insertion in*
 19 *DASH* (Nov. 29, 2021), [https://dashif.org/docs/IOP-Guidelines/DASH-IF-IOP-](https://dashif.org/docs/IOP-Guidelines/DASH-IF-IOP-Part5-v5.0.0.pdf)
 20 [Part5-v5.0.0.pdf](https://dashif.org/docs/IOP-Guidelines/DASH-IF-IOP-Part5-v5.0.0.pdf) [hereinafter DASH Part 5] at Figure 1 DASH-IF Ad Insertion
 21 Architecture [hereinafter DASH diagram]; Zachary Cava, *Ad Insertion in Live*
 22 *Content*, DASH Industry Forum (March 2020), [https://dvb.org/wp-](https://dvb.org/wp-content/uploads/2020/03/Ad-Insertion-in-Live-Content.pdf)
 23 [content/uploads/2020/03/Ad-Insertion-in-Live-Content.pdf](https://dvb.org/wp-content/uploads/2020/03/Ad-Insertion-in-Live-Content.pdf).

24 59. The relevant portions of the Hulu Tech and DASH diagram describe
 25 how Hulu’s system provides ad-supported streaming of VOD and live content.

26 60. Hulu’s system for providing ad-supported streaming service is an OTT
 27 system that is distributed over the server-side and client-side. Among other things, it
 28 performs a computer-implemented method for controlling digital media
 presentations using a digital media player system.

1 61. When Hulu controls digital media presentations it performs the steps of
2 “receiving, on a digital media player system, data comprising digital media content
3 and digital advertising content, the digital media player system having a user
4 interface and an intersplicer, the user interface configured to allow a user to control
5 a course of presentation of the digital media content received, and the intersplicer
6 configured to control one or more initially sequenced insertion points of the digital
7 advertising content into the digital media content” and “transmitting, by at least one
8 remote system to a digital media player system, data comprising digital media content
9 and digital advertising content, the digital media player system having a user
10 interface and an intersplicer, the user interface configured to allow a user to control
11 a course of presentation of the digital media content received, and the intersplicer for
12 controlling one or more insertion points of the digital advertising content into the
13 digital media content.” The DASH Packager and Ad Content Servers constitute a
14 remote system and respectively transmit media content and digital advertising
15 content. The Ad Insertion MPD Manipulator is part of a digital media player system
16 on the server side. With reference to the DASH diagram, the “Ad Insertion MPD
17 Manipulator uses the inputs of IF-2 and IF-3 to generate a DASH presentation that is
18 a mixture of content and advertisements.” [DASH Part 5](#) at § 4.3.

19 62. The Hulu client, which is part of Hulu’s digital media player system,
20 has a user interface configured to allow a user to control a course of presentation of
21 the digital media content received. It allows user control of content (*e.g.*, play, pause,
22 and moving the playback position in the time bar to jump back and forward).

23 63. The functional block Ad Insertion MPD Manipulator is an intersplicer
24 for controlling one or more insertion points of the digital advertising content into the
25 digital media content. The Ad Insertion MPD Manipulator “proxies a DASH MPD
26 and may change it to insert the ad creative in the streaming presentation.” *Id.* at § 4.1.
27
28

4.3 Overview on Interfaces and Functions

The Ad Insertion architectures start with the ingest of an input stream over IF-0 which is processed by an ABR Encoder and output as well-formed CMAF content over the IF-1 interface. A DASH Packager / MPD Generator uses IF-1 input to generate a conformant DASH content presentation that is sent over IF-2 and additional opportunity metadata that is sent (IF-3).

DASH-IF

13

DASH-IF IOP-5 V5.0.0 (2021-11)

An Ad Insertion MPD Manipulator uses the inputs of IF-2 and IF-3 to generate a DASH presentation that is a mixture of content and advertisements. In the SSAI architecture, the manipulator uses IF-4 to ask an Ad Decisioning / Content Server to provide advertisement placements for the content stream, possibly utilizing client sourced parameters from IF-7, before generating the final DASH MPD for IF-5 which contains metadata about the inserted ads via IF-6. In the SGAI architecture, the manipulator does not immediately use IF-4, instead it embeds opportunity information from IF-3 into the DASH MPD IF-5 output so that the DASH Client may later use IF-7 to retrieve the proper ad placements by sending this opportunity information along with client source parameters to the manipulator.

The DASH Client utilizes the reference media pipeline provided by IF-9 to perform seamless playout of the mixed content and ad presentation obtained via IF-5. Ad measurement and tracking is enabled in the client by IF-8 utilizing the ad metadata embedded as part of IF-6.

In Table 1 the interfaces defined are detailed with clause references and some example instantiations. Each interface clause will provide an informative overview of said interface and where aspects of the interface fall within the scope of this document, normative requirements will be provided.

Id. at § 4.3.

64. When Hulu controls digital media presentations it performs the step of sequencing the digital media content, using the intersplicer, the sequencing comprising ordering one or more data blocks of the digital media content into a content stream playable as audio or visual content perceivable by the user, the content stream comprising a media section that comprises at least some of the digital media content, the content stream further comprising an advertising block within which at least some of the digital advertising content is scheduled to be presented during play, the advertising block being arranged within the content stream at an initially defined insertion position relative to the media section.

65. The MPD generated by the Ad Insertion MPD Manipulator is a manifest that sets forth the sequence in which the digital media content is played. The Ad

1 Insertion MPD Manipulator “proxies a DASH MPD and may change it to insert the
2 ad creative in the streaming presentation”:

3 **ad insertion MPD manipulator** – functional entity that proxies a DASH MPD and may change it to insert the ad
4 creative in the streaming presentation. It may also embed other ad related metadata, or remove ad related metadata in
the MPD

5 *Id.* at § 3.1.

6 66. As evidenced by the Hulu Tech diagram, Hulu uses server-side ad
7 insertion (SSAI) because there is no path shown for the client to return opportunity
8 metadata to the Manifest Generation block, as would occur with server-guided ad
9 insertion (SGAI):

10 5.6.2.2 Decisioning Modes

11 The *decisioning mode* of an Ad Decisioning Server dictates how the server chooses to fulfil ad requests made by a
12 caller. The Ad Insertion MPD Manipulator must specify the decisioning mode for the Ad Decisioning Server to use via
IF-4a based on the implemented ad insertion architecture. There are two general modes of ad decisioning that the SSAI
and SGAI architectures respectively enable: *stream level decisioning* and *pod level decisioning*.

13 With *stream level decisioning*, all advertisement opportunities are decided prior to DASH client receiving the stream. A
14 SSAI architecture accomplishes this by having the Ad Insertion MPD Manipulator send the IF-3 supplied opportunity
15 metadata to the Ad Decision server via IF-4a. The result of the ad decision request will contain advertisements for the
entirety of the stream which the Ad Insertion MPD Manipulator transforms into an IF-5 manifest a mixture of content
and advertisements.

16 After a DASH client receives a stream produced from an SSAI architecture, the stream will remain fixed for the
17 duration of the playback session, e.g. the same advertisements will play again should the user choose to rewind the
stream.

18 With *pod level decisioning*, advertisement opportunities are decided just as the DASH client reaches the opportunity
19 within the stream. A SGAI architecture accomplishes by having the Ad Insertion MPD Manipulator use the IF-3
20 supplied opportunity metadata to generate an IF-5 manifest with a mixture of content and remote entities that represent
opportunities. As the client reaches remote entities during playout, the client utilizes IF-7 to return the opportunity
metadata to the Ad Insertion MPD Manipulator which then sends the data to the Ad Decision server via IF-4a. The
result of the ad decision request will contain advertisements for this single opportunity which the Ad Insertion MPD
Manipulator transforms into an IF-7 response for the client to consume.

21 After a DASH client receives a stream produced from an SGAI architecture, the stream can continue to change for the
22 duration of the playback session, e.g. the advertisements can be re-decisioned should the user choose to rewind the
stream.

23 *Id.* at § 5.6.2.2.

24 67. The Ad Insertion MPD Manipulator orders data blocks of the digital
25 media content into a content stream for the user. The “Ad Insertion MPD Manipulator
26 ... generate[s] a DASH presentation that is a mixture of content and advertisements.”

27 *Id.* at § 4.3.
28

1 68. “The MPD proxy inserts the ad content into the MPD and makes it part
2 of the media presentation timeline.” *Id.* at § 5.7.1. “The ad is served automatically to
3 the client as the client will start requesting the Segments according to the information
4 and timeline in the MPD from the Ad content server.” *Id.* at § 5.7.3. Thus, the Ad
5 Insertion MPD Manipulator and/or the Hulu client orders the data blocks of the
6 digital media content into a content stream playable to the user.

7 69. Because the “MPD proxy inserts the ad content into the MPD and makes
8 it part of the media presentation timeline,” the content stream includes an advertising
9 block within which at least some of the digital advertising content is scheduled to be
10 presented during play.

- 11 • The MPD proxy inserts the ad content into the MPD and makes it part of the media presentation timeline. For
12 details on the operation, refer to clause 0. The `MPD@minimumUpdatePeriod` is set such that clients return
13 to the proxy at the end of the ad pod at the very latest. If the end point of the opportunity, `tsplice-in`, is unknown,
`MPD@minimumUpdatePeriod` needs to be set such that the client checks back regularly.

14 *Id.* at § 5.7.1.

15 70. Both the Hulu Tech and DASH diagram indicate that SCTE-35
16 signalling is used to identify insertions portions in the media for ads. “Opportunity
17 metadata is made up of the original descriptive metadata of the input media related
18 to signalling of ad opportunities and the content segmentation information generated
19 by the DASH Packager.” *Id.* at § 5.5.1. “For the purposes of this document, we will
20 assume the carriage of opportunity metadata via SCTE-35 signalling in DASH MPD
21 Events.” *Id.*

22 5.5.1 Introduction

23 *Opportunity metadata* is made up of the original descriptive metadata of the input media related to signalling of ad
24 opportunities and the content segmentation information generated by the DASH Packager. Carriage of opportunity
25 metadata in the presentation output by the DASH Packager / MPD Generator is done via IF-3.

26 The following normative statements on opportunity metadata carriage are made:

- 27 • Opportunity metadata shall be carried through DASH MPD Events.

28 The requirement of MPD Events over other carriage mechanisms is made such that the downstream Ad Insertion MPD
Manipulator can perform insertions without accessing the content segments.

NOTE: This does not exclude the option that equivalent metadata is present inband, but it is not expected that the
MPD Proxy make use of such inband information.

1
2 While the carriage method is considered normative, the format of the metadata is workflow dependent. Examples of
3 known schemes are provided in the subsequent sub-clauses of this interface. For the purposes of this document, we will
4 assume the carriage of opportunity metadata via SCTE-35 signalling in DASH MPD Events. Other methods and
5 formats may be used, but a service provider should understand the downstream system effects if the packager does not
6 follow this assumption.

Any opportunity metadata used in the context of this specification MUST provide:

- 7 • the presentation time (in media time) of the splice point that corresponds to the start of an opportunity.
- 8 • either:
 - 9 - the guaranteed accurate duration of the opportunity, or
 - 10 - an expected duration of the opportunity, if known, and
 - 11 - the identifier of a later metadata event that will signal the accurate end of the opportunity

12 As an example, clause 5.5.2 provides an overview how SCTE-35 can be used to fulfil the requirements of a DASH-IF
13 external opportunity signalling.

14 *Id.* at § 5.5.1. Thus, SCTE-35 and/or other signalling is used to arrange the
15 advertising blocks within the content stream at initially defined insertion positions
16 relative to the media sections.

17 71. When Hulu controls digital media presentations, it performs the step of
18 adaptively re-sequencing the content stream into a modified content stream to reflect
19 a user input.

20 72. In response to a user jumping back in a live stream and subsequently
21 jumping forward past an ad location in the time bar or attempting to jump forward
22 past an ad location in a VOD stream, Hulu will adaptively re-sequence the content
23 stream to force the user to watch an ad, as required by the ad-presentation rules, even
24 if the play position is in a media section of the time bar in the user interface. The
25 resequencing step is performed by the Hulu system, *e.g.*, by Hulu's Ad Insertion
26 MPD Manipulator and/or the Hulu client.

27 73. Hulu's adaptive re-sequencing includes updating a current play position
28 to a new play position in the digital media content detected at the digital media player
system. When the user attempts to play media content after jumping forward past an
ad, the new play position in the media content is reflected in the time bar.

1 74. The updating step is performed by the Hulu system, *e.g.*, by Hulu's Ad
 2 Insertion MPD Manipulator and/or the Hulu client. Below, in the screen grab of an
 3 image generated by the Hulu client player, the user has previously jumped back in
 4 the stream from the live position in the time bar (denoted by the yellow arrow) to
 5 rewatch a portion of the media content (SportsCenter). Within the red box (added to
 6 the original image) the solid green section of the time bar represents the content that
 7 the user jumped back to. The image shows the playback state after the user has
 8 attempted to jump forward past the ad (an advertisement for the Whopper sandwich),
 9 which Hulu displays as a yellow-outlined rectangle on the time bar, to a new playback
 10 position represented by the vertical white line indicated by the red arrow (added to
 11 the original image).

12 75. Despite the new playback position, Hulu has forced the user to watch
 13 the ad that was skipped. Hulu identifies the playback position within the ad with
 14 another vertical white line within the yellow-outlined rectangle. When the ad is
 15 complete, Hulu begins presenting the user with the media content stream at the user-
 16 selected playback point (vertical line indicated by the red arrow).



27 76. The modified content stream comprises an alternate insertion position
 28 of the advertising block relative to the media section. Here, the ad presentation rules

1 employed by Hulu will force the immediate presentation of the ad when the user
2 selects a play position in the content that occurs after an advertising block in the
3 original content stream. The resulting modified content stream thus includes a new
4 advertising block inserted in a position that was previously part of the media section.

5 77. Hulu's step of adaptively re-sequencing comprises determining the
6 alternate insertion position using one or more adaptive preference placement rules
7 associated with the digital media content during play. Hulu adaptively determines the
8 alternate insertion portion of the advertising block from the new playback position
9 selected by the user. The determining step is performed by Hulu's system, *e.g.*, by
10 Hulu's Ad Insertion MPD Manipulator and/or the Hulu client.

11 78. The alternate insertion position determined by Hulu is "adaptively
12 selectable by the intersplicer according to selection criteria defined by the one or
13 more adaptive preference placement rules taking into account the new play position
14 and at least one of a length of time associated with playing the digital media content,
15 a number of digital media data blocks of the digital media content to be played, and
16 a point in time the digital media content is to be played." '403 patent, col. 49:1-9.

17 79. This is an intersplicer function performed by Hulu's system, *e.g.*, by
18 Hulu's Ad Insertion MPD Manipulator and/or the Hulu client. As noted above, the
19 alternate insertion portion of the advertising block is adaptively determined from the
20 new playback position selected by the user. Further, Hulu plays the ad immediately,
21 and thus, the length of time associated with playing the digital media content is zero,
22 and the number of digital media data blocks to be played is zero.

23 80. The alternate insertion position determined by Hulu is positioned at a
24 play position in the digital media content that satisfies a condition selected from: the
25 play position being a predetermined length of time after the new play position, the
26 play position being a predetermined number of digital media data blocks after the
27 new play position, and the play position being at a predetermined time of the hour
28 after the new play position. Hulu plays the ad immediately, and thus, the alternate

1 insertion position of the advertising block results in an ad play position that is zero
 2 time after the new play position and zero digital media data blocks after the new play
 3 position.

4 81. When Hulu controls digital media presentations it performs the step of
 5 causing presentation of the modified content stream at the digital media player system
 6 during a play period associated with one or more states of play. The modified content
 7 with the new advertising block position is played, as shown in the Whopper
 8 advertisement, when the user attempts to start playback of content at the position
 9 indicated by the red arrow.

10 82. When the Hulu client plays the ad, the word “Ad” is displayed to the
 11 user, and the user is unable to navigate past the ad, reflecting a state of play during
 12 an ad. This “causing presentation” step is performed by Hulu’s system, *e.g.*, by the
 13 Ad Insertion MPD Manipulator and/or the Hulu client.



24 83. When Hulu controls digital media presentations it performs the step of
 25 causing adaptive presentation of a required part of the digital advertising content at
 26 the alternate insertion point, instead of the initially defined insertion position. Hulu
 27 plays the ad at the alternate insertion point corresponding to wherever the user has
 28 positioned the new playback position within the media section, instead of playing the

1 ad at its initially defined insertion portion. In the example above, Hulu forces the user
2 to watch the entire Whopper ad, thus the required part of the digital advertising
3 content is the entire ad. The “causing adaptive presentation” step is performed by
4 Hulu’s system, *e.g.*, by Hulu’s Ad Insertion MPD Manipulator and/or the Hulu client.

5 84. When Hulu controls digital media presentations it performs the step of
6 keeping a setting, in at least a first memory of the digital media player system, to
7 indicate a first state of play, the setting including a first value to indicate presentation
8 of the required part of the digital advertising content is in progress during
9 presentation of the modified content stream.

10 85. When the Hulu client plays the ad, the user is unable to navigate past
11 the ad, reflecting a state of play during an ad. Thus, Hulu necessarily keeps a setting
12 in the memory of its digital media player system to indicate that advertising content
13 is being played. This setting is also reflected by the word “Ad” displayed during
14 advertisement. Hulu uses the setting in the digital media player system’s memory to
15 indicate the required part of the ad (*i.e.*, the entire ad) is in progress when the ad is
16 played as part of the modified digital content stream. This “keeping a setting” step is
17 performed by Hulu’s system, *e.g.*, by Hulu’s Ad Insertion MPD Manipulator and/or
18 the Hulu client.

19 86. When Hulu controls digital media presentations, it disables user
20 interface commands for navigation control, particularly when the Hulu client plays
21 an ad. This measure, enacted upon detecting a specific state of play in the system's
22 memory, ensures that users cannot alter or skip the ad presentation. This disabling of
23 navigation commands maintains ad playback and is executed by Hulu’s system, such
24 as the Ad Insertion MPD Manipulator and/or the Hulu client.

25 87. Hulu’s infringement of the ’403 patent is willful. Hulu and its parent
26 company, Disney, share technology for ad-supported streaming. Disney was made
27 aware of the ’403 patent—and its relevance to their technology—when the U.S.
28 Patent Office relied on the ’403 patent to reject a Disney patent application related to

1 ad-supported streaming technology in at least six office actions over approximately
2 4.5 years. *See, e.g.*, U.S. Patent Application No. 12/231,234 (“the Disney
3 application”), Office Action of May 20, 2015, p. 4.

4 88. The Disney application was never allowed by the Patent Office. Hulu
5 and Disney use similar, if not the same, technology to provide ad-supported
6 streaming services, which are sometimes bundled together in a single subscription
7 plan. As a result of Disney being made aware of the ’403 patent and/or the application
8 that issued as the ’403 patent, and its relevance to ad-supported streaming technology
9 used by Hulu and Disney, Hulu (1) had knowledge of, or was willfully blind to, the
10 existence of the ’403 patent, and (2) had knowledge of, or was willfully blind to the
11 fact, that its conduct constituted infringement of the ’403 patent.

12 89. Alternatively, when the claimed inventions in the ’403 patent, including
13 at least claim 21, are made, used, or sold by Hulu’s customers, Hulu knowingly and
14 intentionally induces its customers’ infringement of those claims of the ’403 patent
15 in violation of 35 U.S.C. § 271(b). As set forth above, Hulu has had knowledge of
16 the ’403 patent and the infringing nature of its ad-supported service and its software
17 and systems for providing that service. Despite this knowledge Hulu continues to
18 actively encourage its existing subscribers and attract new subscribers to use the ad-
19 supported Hulu service to directly infringe the ’403 patent. Hulu does so knowing
20 and intending that such users will commit these infringing acts. For example, Hulu
21 makes the infringing technology available to its subscribers through its software
22 and/or back-end systems for providing ad-supported service, and Hulu conditions its
23 subscribers’ receipt of ad-supported service on their installation and use of Hulu’s
24 software and systems, which prevent subscribers from skipping or fast-forwarding
25 past ads inserted into the content stream. Hulu, makes its software, systems, and
26 services available, despite its knowledge of the ’403 patent, thereby specifically
27 intending for and inducing its subscribers to infringe the ’403 patent, including at
28 least claim 21.

1 90. Alternatively, when the claimed inventions in the '403 patent, including
2 at least claim 21, are made, used, or sold by Hulu's customers, Hulu is a contributory
3 infringer of those claims of the '403 patent in violation of 35 U.S.C. § 271(c). Hulu
4 has contributed to the infringement of the '403 patent by supplying subscribers with
5 its software and access to its back-end systems for providing ad-supported services
6 to subscribers, knowing that such software and/or systems: constitute a material part
7 of the claimed inventions of the '403 patent, including at least claim 21; are especially
8 made or adapted to infringe the '403 patent and would be put to an infringing use,
9 *e.g.*, to enforce Hulu's conditions for receiving its ad-supported service; and are not
10 staple articles or commodities of commerce suitable for non-infringing use.

11 **COUNT 2 – INFRINGEMENT OF U.S. PATENT NO. 11,463,768**

12 91. Piranha Media incorporates by reference and re-alleges the foregoing
13 paragraphs as if fully set forth herein.

14 92. Upon information and belief, Hulu has directly infringed and continues
15 to directly infringe at least claims 1 and 19 of the '768 patent, literally and/or under
16 the doctrine of equivalents.

17 93. The evidence of infringement is based on testing Hulu's product, Hulu's
18 own description of its system on the Hulu Tech blog, and Hulu's presentation of an
19 advanced ad-insertion architecture for the DASH Industry Forum standard, which
20 Hulu helped draft.

21 94. The following paragraphs demonstrate how Hulu infringes at least
22 claims 1 and 19 of the '768 patent. For example, Hulu makes, sells, uses or performs
23 all of the elements of claims 1 and 19 and is a direct infringer when it makes, sells,
24 uses, and tests the Hulu ad-insertion system.

25 95. With respect to claim 1, Hulu's system for providing ad-supported
26 streaming service includes a digital media system, as shown in Hulu Tech and the
27 DASH diagram. For any element of claim 1 that may be in the possession of third
28 parties such as Hulu's subscribers, for example, Hulu's user interface or other

1 software components of Hulu's ad-insertion system, Hulu makes those components,
2 owns those components, sells those components by virtue of charging subscribers for
3 their use, and combines those components into Hulu's ad-insertion system.
4 Furthermore, Hulu directs and controls the operation of those components through
5 conditioning its subscribers' ad-supported streaming service on its subscribers being
6 required to watch ads even when they attempt to fast-forward past an ad. Through all
7 of these actions, Hulu combines all of the elements of the system of claim 1.

8 96. Hulu's digital media system has a user interface for receiving user input
9 for controlling a course of presentation of digital media content. The Hulu client,
10 which is part of Hulu's digital media player system, includes a user interface
11 configured to allow a user to control a course of presentation of the digital media
12 content received. It allows user control of content (*e.g.*, play, pause, and moving the
13 playback position in the time bar to jump back and forward). In the image below, the
14 Hulu user interface permits the user to select a playback position on the playbar and
15 play content, among other things.

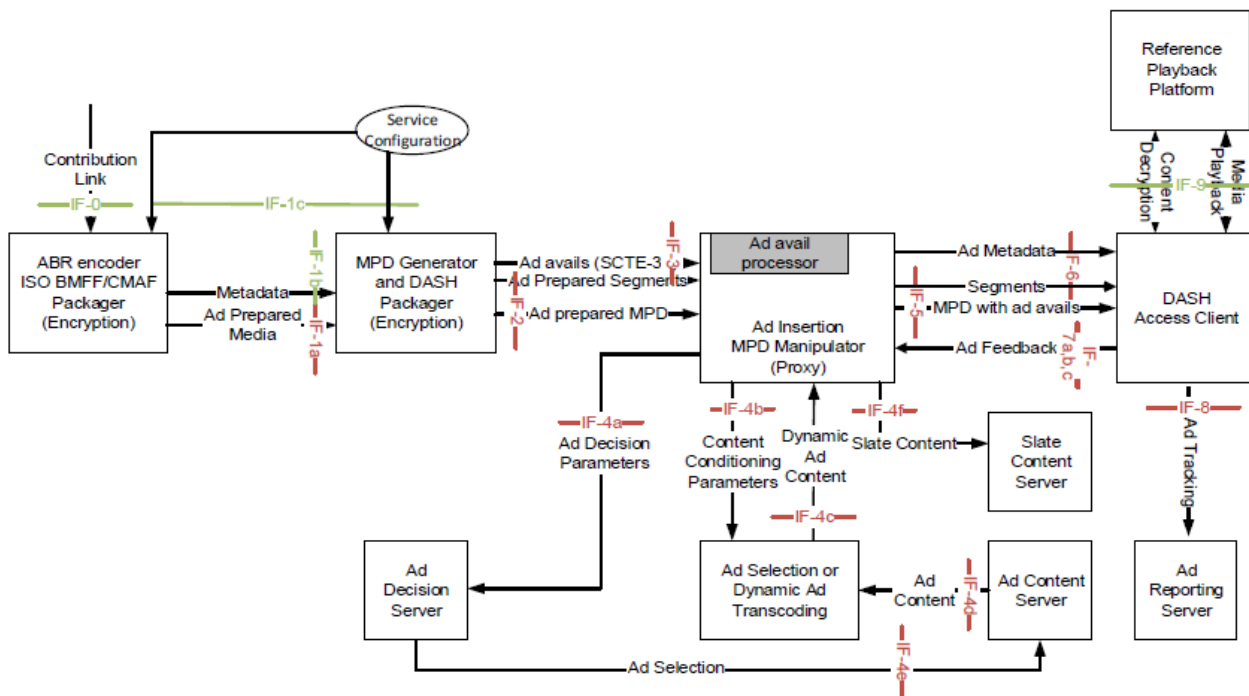


26 97. Hulu's digital media system has an advertisement rotator for managing
27 one or more requests for advertising content to be presented during the course of
28 presentation of the digital media content either visually or audibly. For example, the

1 Ad Decision Server/entity and Ad Content Server/entity constitute an advertisement
 2 rotator for managing requests for advertising content to be presented during the
 3 course of playing digital media content of Hulu's system for providing ad-supported
 4 streaming service: "Information about ad content to insert into a presentation is
 5 retrieved from the Ad Decision and Ad Content server(s) via the IF-4 interfaces. The
 6 request from the Ad Insertion MPD Manipulator for ad content provides all the
 7 information needed to perform ad decisioning, including content metadata and
 8 opportunity descriptions. The response is then translated by the Ad Insertion MPD
 9 Manipulator into the DASH structures detailed in IF-5." [DASH Part 5](#) at § 5.6.1,
 10 Introduction.

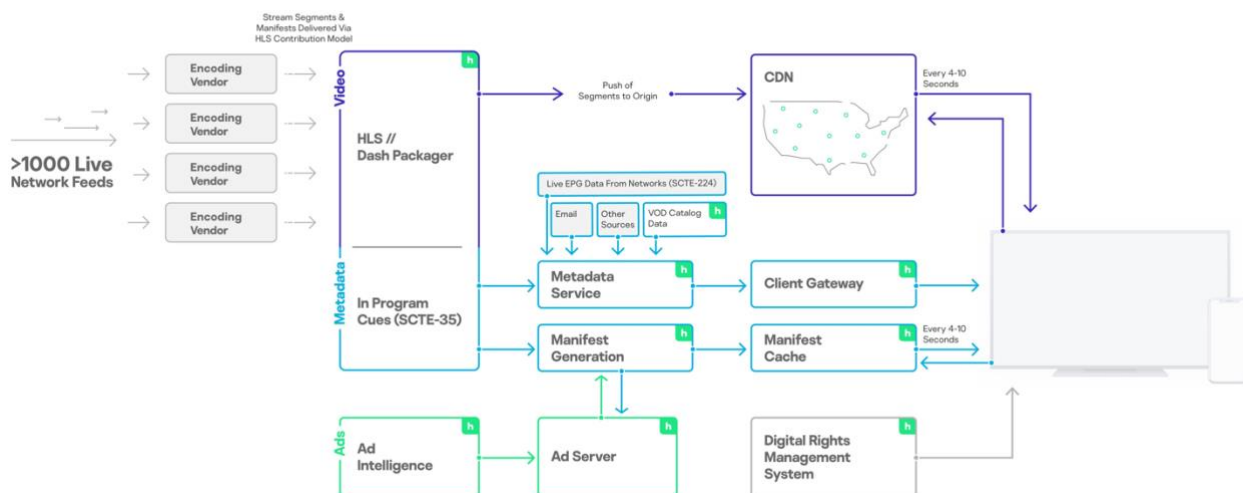
11 The response of the Ad Decision Server identifies the advertisements decided by the server and provides information
 12 associated with the advertisement such as general metadata, viewability requirements, media files, mezzanines, and
 13 tracking events. The actual ad content is provided by the Ad Content Server, preferably following the DASH-IF Ad
 14 Content format as defined in clause 5.6.7. Depending on the decisioning mode, the decision response may optionally
 15 contain the placement and ordering of advertisements as well.

16 *Id.* at § 5.6.4.1, Overview.



17 [DASH diagram](#). The Ad Decision Server and Ad Content Server correspond to the
 18 Ad Server and Ad Intelligence in the Hulu Tech diagram:
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Live OTT Service on Hulu



[Hulu Tech.](#)

98. Hulu’s digital media system has an intersplicer in communication with the advertisement rotator. In the DASH diagram, the functional block Ad Insertion MPD Manipulator is an intersplicer for controlling one or more insertion points of the digital advertising content into the digital media content. The Ad Insertion MPD Manipulator retrieves “[i]nformation about ad content to insert into a presentation ... from the Ad Decision and Ad Content server(s) via the IF-4 interfaces” shown in the DASH diagram. [DASH Part 5](#) at § 5.6.1, Introduction.

99. Hulu’s intersplicer is configured to change a predetermined advertisement insertion point in the digital media content to an adapted advertisement insertion point in the digital media content, in response to receiving a user input to update a current play position in the digital media content to a new play position in the digital media content, the adapted advertisement insertion point determined by an adaptive preference rule based on an advertisement requirement that applies to the digital media system. “[Th[e IF-4d DASH] interface provides a recommended content format for ad content that is expected to be dynamically inserted into a DASH Live or On-Demand Media Presentation.” *Id.* at § 5.6.5. In the image below, the predetermined advertisement insertion point is the portion of the time bar that is outlined by a yellow rectangle by the Hulu client software.



100. In response to a user (a) jumping back in a live stream to watch previously-streamed content and subsequently jumping forward past a predetermined ad location in the time bar or (b) attempting to jump forward past a predetermined ad location in a VOD stream, the Hulu system will adaptively change the advertisement insertion point in the digital media content to force the user to watch the ad, even if the play position is in a media section of the time bar in the user interface. In the image above the selected new play position in the media content is indicated by the red arrow. That new play position becomes the adapted insertion point for the Whopper ad, with the adapted insertion point replacing the predetermined insertion point that the user skipped. In the example of the Whopper ad above, the adapted insertion point was determined by an adaptive preference rule that the skipped ad will play at the play position selected by any user of the digital media system.

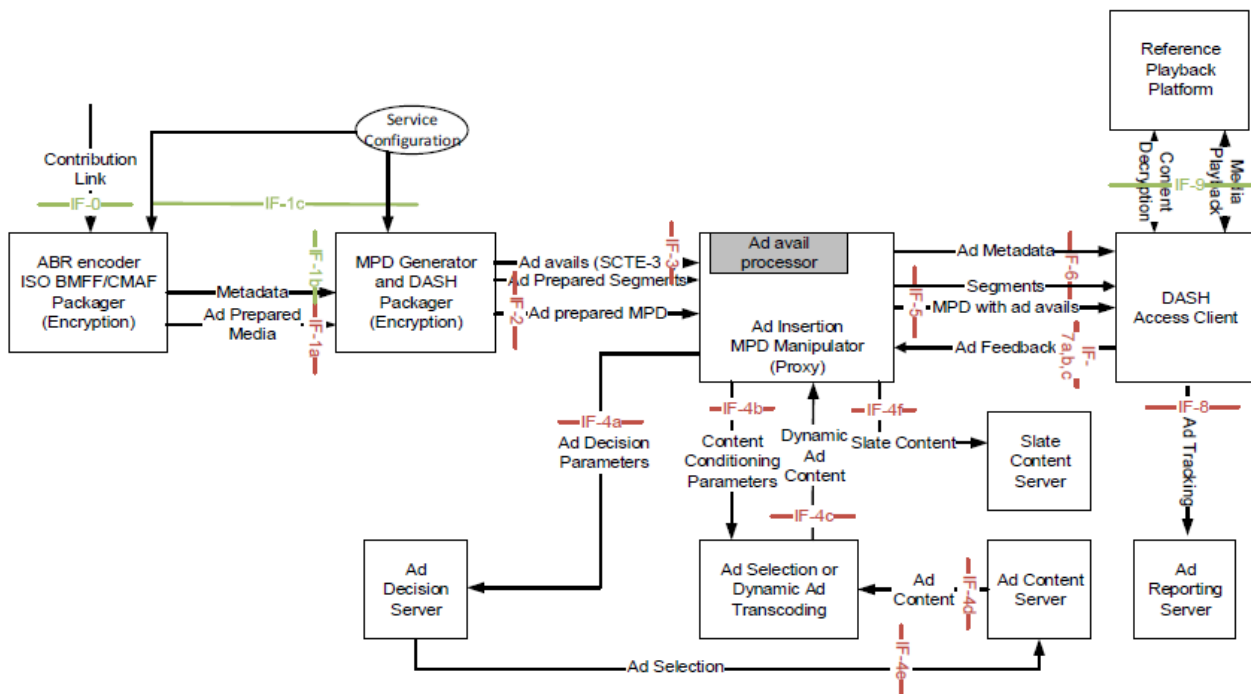
101. Hulu's intersplicer is configured to modify the adapted insertion point of digital advertising content based on the advertisement requirement. For example, the Hulu system will adaptively change the advertisement insertion point in the digital media content to force the user to watch the ad, even if the play position is in a media section of the time bar in the user interface.

1 102. The new play position becomes the adapted insertion point for the ad,
2 with the adapted insertion point replacing the predetermined insertion point that the
3 user skipped. The adapted insertion point is modified based on an advertising
4 requirement that no user of Hulu’s ad-supported subscription can skip an ad, unless
5 certain conditions are satisfied to allow a user to skip an ad one or more times upon
6 starting a new streamed program.

7 103. Hulu’s intersplicer is configured to request, from the advertisement
8 rotator, digital advertising content to be played at the adapted advertisement insertion
9 point. “The request from the Ad Insertion MPD Manipulator for ad content provides
10 all the information needed to perform ad decisioning, including content metadata and
11 opportunity descriptions.” [DASH Part 5](#) at § 5.6.1, Introduction. “There exists an Ad
12 Content entity that accepts conditioning parameters of the form described by IF-4b
13 and [] Provides the ad content of the form described by IF-4c” *Id.* “The actual ad
14 content is provided by the Ad Content Server.” *Id.* at § 5.6.4.1, Overview.

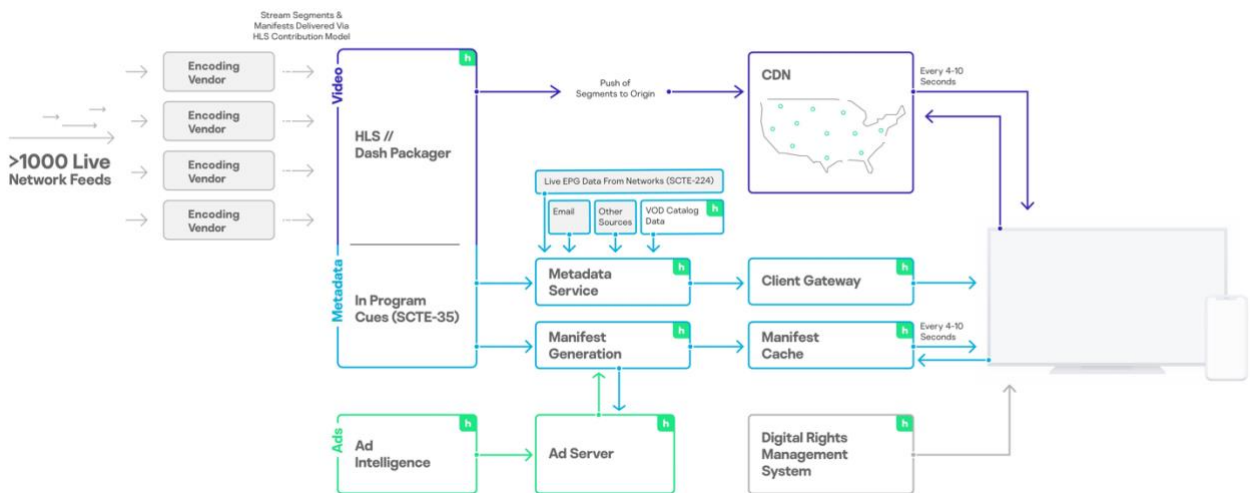
15 104. With respect to claim 19, Hulu’s system for providing ad-supported
16 streaming service includes software that performs a method embedded in a machine-
17 readable medium in the form of executable instructions to cause at least one
18 programmable processor to perform operations. For example, Hulu’s servers and
19 systems make, store, and transmit server-side and client-side software for providing
20 ad-supported streaming service to Hulu’s subscribers. Functions, interrelationships,
21 and interfaces of the embedded method are shown in the Hulu Tech diagram and the
22 DASH diagram:
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[DASH diagram.](#)

Live OTT Service on Hulu



[Hulu Tech.](#)

105. Hulu’s system performs the step of replacing a predetermined advertisement insertion point in digital media content with an adapted insertion point for digital advertising content, in response to receiving a request to update a current play position in the digital media content to a new play position in the digital media content, the adapted insertion point determined by an adaptive preference rule based

1 on one or more advertisement requirements. “Th[e IF-4d DASH] interface provides
 2 a recommended content format for ad content that is expected to be dynamically
 3 inserted into a DASH Live or On-Demand Media Presentation.” [DASH Part 5](#) at §
 4 5.6.5. In the image below, the predetermined advertisement insertion point is the
 5 portion of the time bar that is outlined by a yellow rectangle by the Hulu client
 6 software:



17 106. In response to a user (a) jumping back in a live stream to watch
 18 previously-streamed content and subsequently jumping forward past a predetermined
 19 ad location in the time bar or (b) attempting to jump forward past a predetermined ad
 20 location in a VOD stream, the Hulu system will adaptively change the advertisement
 21 insertion point in the digital media content to force the user to watch the ad, even if
 22 the play position is in a media section of the time bar in the user interface.

23 107. In the image above the selected new play position in the media content
 24 is indicated by the red arrow. That new play position becomes the adapted insertion
 25 point for the Whopper ad, with the adapted insertion point replacing the
 26 predetermined insertion point that the user skipped. In the example of the Whopper
 27 ad above, the adapted insertion point was determined by an adaptive preference rule
 28

1 that the skipped ad will play at the play position selected by any user of the digital
2 media system.

3 108. Hulu's system performs the step of requesting digital advertising
4 content to be played at the adapted insertion point of digital advertising content.
5 "The request from the Ad Insertion MPD Manipulator for ad content provides all
6 the information needed to perform ad decisioning, including content metadata and
7 opportunity descriptions." [DASH Part 5](#) at § 5.6.1, Introduction. "There exists an
8 Ad Content entity that accepts conditioning parameters of the form described by IF-
9 4b and [] Provides the ad content of the form described by IF-4c" *Id.* "The actual
10 ad content is provided by the Ad Content Server." *Id.* at § 5.6.4.1, Overview.

11 109. Hulu's system performs the step of presenting the digital advertising
12 content at the adapted insertion point of digital advertising content. Hulu's software
13 presents the digital advertising content to the user at the adapted insertion point.
14 "[T]he client ... will present the decisioned advertisement." *Id.* at § 5.9.1.

15 110. Hulu's infringement of the '768 patent is willful. Hulu and its parent
16 company, Disney, share technology for ad-supported streaming. Disney's awareness
17 of the technology underlying the '403 patent, and its relevance to Hulu's streaming
18 technology, was established when the U.S. Patent Office repeatedly cited the '403
19 patent application in rejecting Disney's related patent application over
20 approximately 4.5 years. This is evidenced, for example, in U.S. Patent Application
21 No. 12/231,234 ("the Disney application"), Office Action of May 20, 2015, p. 4.

22 111. The Disney application was never allowed by the Patent Office. Hulu
23 and Disney use similar, if not the same, technology to provide ad-supported
24 streaming services, which are sometimes bundled together in a single subscription
25 plan. The '768 patent is a child of, and shares a common specification with, the '403
26 patent.

27 112. As a result of Disney being made aware of the '403 patent and/or the
28 application that issued as the '403 patent, and its relevance to ad-supported

1 streaming technology used by Hulu and Disney, Hulu (1) had knowledge of, or was
2 willfully blind to, the existence of the '768 patent, and (2) had knowledge of, or was
3 willfully blind to the fact, that its conduct constituted infringement of the '768
4 patent.

5 113. Alternatively, when the claimed inventions in the '768 patent, including
6 at least claim 1, are made, used, or sold by Hulu's customers, Hulu knowingly and
7 intentionally induces its customers' infringement of those claims of the '768 patent
8 in violation of 35 U.S.C. § 271(b). As set forth above, Hulu has had knowledge of
9 the '768 patent and the infringing nature of its ad-supported service and its software
10 and systems for providing that service. Despite this knowledge Hulu continues to
11 actively encourage its existing subscribers and attract new subscribers to use the ad-
12 supported Hulu service to directly infringe the '768 patent. Hulu does so knowing
13 and intending that such users will commit these infringing acts. For example, Hulu
14 makes the infringing technology available to its subscribers through its software
15 and/or back-end systems for providing ad-supported service, and Hulu conditions its
16 subscribers' receipt of ad-supported service on their installation and use of Hulu's
17 software and systems, which prevent subscribers from skipping or fast-forwarding
18 past ads inserted into the content stream. Hulu, makes its software, systems, and
19 services available, despite its knowledge of the '768 patent, thereby specifically
20 intending for and inducing its subscribers to infringe the '768 patent, including at
21 least claim 1.

22 114. Alternatively, when the claimed inventions in the '768 patent, including
23 at least claim 1, are made, used, or sold by Hulu's customers, Hulu is a contributory
24 infringer of those claims of the '768 patent in violation of 35 U.S.C. § 271(c). Hulu
25 has contributed to the infringement of the '768 patent by supplying subscribers with
26 its software and access to its back-end systems for providing ad-supported services
27 to subscribers, knowing that such software and/or systems: constitute a material part
28 of the claimed inventions of the '768 patent, including at least claim 1; are especially

1 made or adapted to infringe the '768 patent and would be put to an infringing use,
2 *e.g.*, to enforce Hulu's conditions for receiving its ad-supported service; and are not
3 staple articles or commodities of commerce suitable for non-infringing use.

4 **PRAYER FOR RELIEF**

5 WHEREFORE, Plaintiff requests the following relief from the Court:

6 A. Judgment that Defendant is liable for infringement of one or more
7 claims of the '403 patent and of the '768 patent;

8 B. Compensatory damages together with interests and costs fixed by the
9 Court, including an accounting of all infringements and damages not presented at
10 trial;

11 C. An award of enhanced damages under 35 U.S.C. § 284;

12 D. A declaration that this case is exceptional under 35 U.S.C. § 285, and
13 an award of Plaintiff's reasonable attorney fees and costs; and

14 E. Judgment granting Plaintiff such other and further relief as this Court
15 may deem just and proper.

16
17 Dated: January 19, 2024

KRAMER ALBERTI LIM & TONKOVICH LLP

18
19 By: /s/ Robert F. Kramer

20 Robert F. Kramer

21 *Attorneys for Plaintiff*

22 *Piranha Media Distribution, LLC*
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DEMAND FOR JURY TRIAL

Plaintiff Piranha Media Distribution, LLC hereby demands a jury trial on all issues triable pursuant to Federal Rule of Civil Procedure 38.

Dated: January 19, 2024

KRAMER ALBERTI LIM & TONKOVICH LLP

By: /s/ Robert F. Kramer
Robert F. Kramer

*Attorneys for Plaintiff
Piranha Media Distribution, LLC*