

UNITED STATES PATENT AND TRADEMARK OFFICE

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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HULU, LLC,

Petitioner

v.

SITO MOBILE R&D IP, LLC and SITO MOBILE, LTD.,

Patent Owner

Patent No. 8,825,887

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**PETITION FOR *INTER PARTES* REVIEW  
OF U.S. PATENT NO. 8,825,887**

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1004	Curriculum vitae of Henry H. Houh
1005	U.S. Patent No. 6,389,467 (“Eyal”)
1006	Reserved
1007	Reserved
1008	Reserved
1009	U.S. Patent No. 6,715,126 (“Chang”)
1010	Application No. 09,838,993 (“April 2001 Application”)
1011	Provisional Application No. 60/263,044 (“Provisional Application”)
1012	Application No. 10/051,406 (“2002 Application”)
1013	RealNetworks Form S-1 (Sept. 26, 1997)
1014	Portions of e-Video by H. Peter Alesso
1015	Synchronized Multimedia Integration Language (SMIL) 1.0 Specification (June 15, 1998)
1016	Archive.org Affidavit of Christopher Butler and RealNetworks Production Guide for RealSystem G2, from <i>Netflix, Inc. v. Affinity</i>

	<i>Labs of Texas, LLC</i> , IPR2016-01701 (EX. 1026 in the <i>Netflix</i> IPR)
1017	Microsoft, “All about ASX Files” from archive.org (available at <a href="https://web.archive.org/web/19990508200218/http://msdn.microsoft.com/workshop/imedia/windowsmedia/crcontent/asx.asp">https://web.archive.org/web/19990508200218/http://msdn.microsoft.com/workshop/imedia/windowsmedia/crcontent/asx.asp</a> ) (Excerpt of Ex-1058)
1018	Microsoft, “Ad Insertion,” from archive.org (available at <a href="https://web.archive.org/web/19991013170746/http://msdn.microsoft.com/workshop/imedia/windowsmedia/ad.asp">https://web.archive.org/web/19991013170746/http://msdn.microsoft.com/workshop/imedia/windowsmedia/ad.asp</a> ) (Excerpt of Ex-1058)
1019	Reserved
1020	Cisco Systems, “The Cisco Content Delivery Network Solution for the Enterprise”
1021	Akamai Form S-1 (Amendment No. 6, Oct. 28, 1999)
1022	The Tech, “MIT Students Reap Profit From Soaring Akamai IPO” (Nov. 2, 1999)
1023	Reserved
1024	Reserved
1025	Kien A. Hua et al., “2PSM: an efficient framework for searching video information in a limited-bandwidth environment,” <i>Multimedia Systems</i> 7: 396–408 (1999)
1026	Portions of Computer Networking by J. F. Kurose and K. W. Ross
1027	Order Governing Proceedings from SITO Mobile R&D IP, LLC v. Hulu, LLC, 6:20-CV-472-ADA (W.D. Tex., August 21, 2020)
1028	Declaration of Cameron W. Westin In Support of Hulu’s Petition
1029	Portions of an email chain between Stephanie R. Mandir and Amy K. Liang



1030	SITO Mobile R&D IP, LLC. and SITO Mobile, Ltd.’s Disclosure of Preliminary Infringement Contentions from SITO Mobile R&D IP v. Hulu, LLC, 6:20-CV-472-ADA, served on Sept. 11, 2020
1031	RFC 1945 - Hyper-Text Transfer Protocol v1.0 (1996)
1032	RFC 959 - File Transfer Protocol (FTP)(October 1985)
1033	U.S. Patent No. 5,774,670 (“Montulli”)
1034	RFC 1866 - Hypertext Markup Language - 2.0 (1995)
1035	RFC 1738 - Uniform Resource Locators (URL) (1994)
1036	Katherine Gallagher and Jeffrey Parsons, “A Framework for Targeting Banner Advertising On the Internet” (1997)
1037	PR Newswire Association, “The New York Times on the Web Creates New On-line Marketing Standard; Demographic Data From 1.7 Million Registrants Enables Precise Advertiser Targeting” (July 14, 1997)
1038	Herhold, S., “Web Effort Aims at Tailoring Pitches to the Right People,” The Philadelphia Inquirer (February 27, 1997)
1039	Reserved
1040	Reserved
1041	Reserved
1042	Reserved
1043	RFC 1580 - Guide to Network Resource Tools (March 1994)
1044	U.S. Patent No. 5,931,901 (“Wolfe”)
1045	U.S. Patent No. 6,385,592 (“Angles”)

1046	Reserved
1047	Reserved
1048	Email from C. Westin to Counsel for SITO dated December 10, 2020.
1049	Reserved
1050	Reserved
1051	U.S. Patent Pub. No. 2004/0083273A1 (“Madison”)
1052	Specification of U.S. Patent Provisional Application No. 60/263,058 (“Madison Provisional”)
1053	Reserved
1054	Philip Greenspun’s “Database Backed Web Sites: The Thinking Person’s Guide to Web Publishing”
1055	Database Management Systems, Third Edition
1056	Reserved
1057	Reserved
1058	Affidavit of Duncan Hall and Exhibit A (11-11-2020)
1059	Reserved
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## I. INTRODUCTION

Hulu, LLC requests *inter partes* review (“IPR”) of Claims 39-40, 45, 47, 52, 68, 98-101, 103, 105, 111, and 115-117 of U.S. Patent No. 8,825,887 (“the ’887 Patent”; Ex-1001), assigned to SITO Mobile R&D IP, LLC and SITO Mobile Ltd. These claims recite a computing device receiving a request for media from a communication device, and generating and transmitting a responsive communication or list. Ex-1001, Claims 39, 45, 68, and 98. The response in the challenged claims must comprise specific information, described more fully below. *Id.* The challenged claims also recite rules and records for sharing revenue. *Id.*

The prior art teaches the claimed methods—including by sending a response to the user device that meets all of the recited elements—and renders the challenged claims invalid. Prior art described “play-lists” and “redirector files” to stream media (*see* Ex-1005 & Ex-1051), along with the claimed methods for tracking and sharing revenue (*see* Ex-1044 & Ex-1045), before the ’887 Patent. For reasons set forth in this Petition, all challenged claims of the ’887 Patent are obvious over this prior art.

This Petition presents invalidity grounds not considered during prosecution. These grounds are likely to prevail, and this Petition should be granted.

## II. RELIEF REQUESTED

Petitioner respectfully requests review and cancellation of claims 39-40, 45, 47, 52, 68, 98-101, 103, 105, 111, and 115-117 of the '887 Patent under 35 U.S.C. §§102-103<sup>1</sup> based on the following grounds:

1. Eyal combined with Angles renders obvious claims 39-40, 45, 47, 52, 68, 98-101, 103, 111, and 115-117;
2. Eyal combined with Angles and Chang renders obvious claim 105;  
and
3. Madison combined with Wolfe renders obvious claims 39, 45, 52, 68, 98-101, 103, 105, 111, 115, and 117.

These references were not discussed during prosecution of the '887 Patent.

## III. BACKGROUND

### A. '887 Patent Overview<sup>2</sup>

The '887 patent, titled “System and Method for Routing Media,” is one of a family of patents relating to the “management and administration of media

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<sup>1</sup> The '887 Patent's application was filed before March 16, 2013, so Petitioner applies pre-AIA 35 U.S.C. §§102-103. If the application is not entitled to a priority date before March 16, 2013, the cited prior art invalidates the challenged claims under AIA 35 U.S.C. §§102-103.

<sup>2</sup> This section is supported by Ex-1003, ¶¶107-112.

streaming.” Ex-1001, Cover, 1:36-37. It describes “a distributed media routing algorithm” that enables content owners to create media programs for streaming to users. *Id.*, 3:62-4:20. The ’887 patent claims priority to January 19, 2001, which Petitioner has applied in this Petition.<sup>3</sup>

The ’887 patent further discusses enabling “content owners to create viewing programs that can be targeted at viewers based on the amount of information known about an individual viewer.” *Id.*, 4:7-10. The ’887 Patent’s management method also includes sharing streaming revenue among parties (*e.g.*, content owners, network owners). *See* Ex-1001, Claim 98 (“at least one revenue sharing rule”).

The ’887 patent’s system comprises the **viewer**; a **real time switch management system (RTSMS)** with a **reservation system**; **the managed media switch (MMS)**; and an optional **name routing processor (NRP)**. These elements are color-coded in FIG. 1:

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<sup>3</sup> While Petitioner’s prior art predates January 19, 2001, Petitioner challenges that priority date (*see* section III.C) and reserves the right to do so in other proceedings. Petitioner also reserves the right to challenge any claim by Patent Owner that the ’887 patent is entitled to an earlier priority date. *See* Ex-1030 (asserting March 31, 2000).

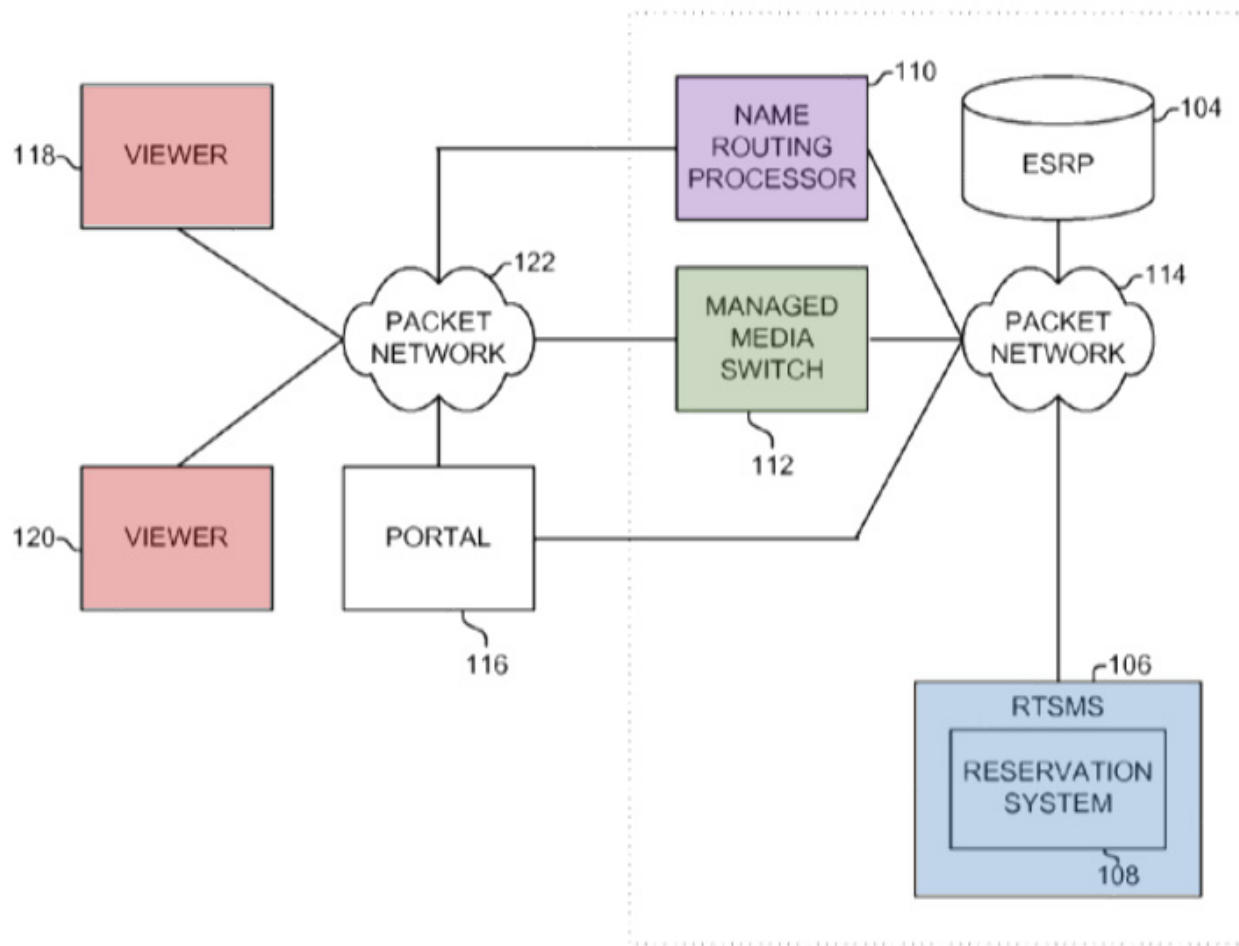


FIG. 1

“[A] media owner generates a program,” placed on the enhanced service routing processor (ESRP). Ex-1001, 18:29-30. The “program” indicates revenue sharing, for example, that “the media owner is to be credited with 80% of the revenue generated from the program, and the network owner is to be credited with the remaining 20%.” Ex-1001, 18:39-41. The ESRP distributes the program to the RTSMS and to switches like the MMS. Ex-1001, 18:44-48.

When a **viewer** chooses to watch the program, the **viewer** selects a link on the portal, which sends a request to the **reservation system**. Ex-1001,18:50-54. The **reservation system** builds a reservation and sends it to the **viewer** and the **NRP**. Ex-1001, 18:65-19:16. The **viewer** connects to an **MMS** that can stream the media using a reservation number, and the **MMS** streams the media to the viewer. Ex-1001, 19:45-47.

The session ends once all requested media has been streamed. Ex-1001, 19:53-54. The **RTSMS** processes information from the **NRP** and the **MMS** (Ex-1001, 19:56-65), creating a message sequence detail record (MSDR) (Ex-1001, 19:65-20:2). The **RTSMS** applies rules, like how to share revenue, to the MSDR and produces a financial settlement and report. Ex-1001, 20:3-8.

## **B. Prosecution History<sup>4</sup>**

U.S. Patent Application No. 13/841,015 (the '015 Application) was filed on March 15, 2013 in a chain claiming priority to January 19, 2001. Ex-1002, 2. The '015 Application originally included 44 claims. *Id.*, 76-83. On August 6, 2013, these claims were rejected as unpatentable over prior art. *Id.*, 120-145. Some claims were also rejected under §101. *Id.*, 119-120. On February 6, 2014, the Applicant amended the specification and claims (*id.*, 162-173), added 26 new

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<sup>4</sup> This section is supported by Ex-1003, ¶¶113-116.



claims (*id.*, 174-179), and submitted remarks disagreeing with the Examiner's rejections (*id.*, 180-185).

After multiple interviews (*id.*, 258, 260, 313), the claims were amended (*id.*, 263-295), and 56 new claims were added (*id.*, 295-310). All 126 claims were allowed. *Id.*, 261, 311-312. Regarding the previous §103 rejections, the examiner explained that “the prior art fails to disclose, either alone or in combination,” the amended claims, and that “[w]hile each element standing alone is not novel, the combination of limitations together as claimed in independent form reaches into hindsight reasoning.” *Id.*, 311. The '887 patent issued on September 2, 2014. *Id.*, 315, 379.

### **C. Priority Date**

Although the '887 Patent claims priority to January 19, 2001, it is not entitled to a priority date earlier than January 18, 2002, the filing date of Application No. 10/051,406 (“2002 Application,” Ex-1012). Neither Application No. 09/838,993 (“April 2001 Application,” Ex-1010) nor Provisional No. 60/263,044 (“Provisional Application,” Ex-1011) provide written description support for the claimed “instructions.”

All challenged claims require including “(iii) one or more instructions as to how the at least one portion of the requested media is to be streamed to the communication device” in a communication sent to a “communication device

capable of executing instructions received.” *See* Ex-1001, Claims 39, 45, 68, 98.

The April 2001 Application does not disclose such “instructions.” It merely describes sending a “list of named media references, such as a universal resource locator (URL), or other media items that are to be streamed to the viewer” to the communication device. Ex-1010, [0052]. Each “separate URL identifies each name on a play list for a presentation, and the reservation has a unique reservation number that is located in each URL.” *Id.*, [0053]. The “URLs are transmitted to the viewer [] using the play list, and the viewer can use the play list to initiate a session with the switch.” *Id.* The Provisional Application similarly fails to describe the claimed instructions, instead discussing:

1. Instructions from a content provider to a reservation system regarding whether to process or pause the communication device’s request for media. Ex-1011, 12. These instructions are not executed by the communication device, nor are they even provided to the communication device. They are instead used by the reservation system during the “pre-service registration process.”
2. “Instructions about how the player should present the media to the viewer,” which merely instruct how to display media to a user. *Id.*, 15. These are not the claimed “instructions as to how... requested

media is to be streamed.” Instead, they disclose how to display media that was already streamed.

3. Instructions in the presentation script “about how to dynamically change the content.” First, these instructions differ from those claimed because the presentation script is stored in the “reservation cache” and not transmitted to the user. *Id.*, 15, 26. Second, they do not enable the communication device to stream the requested media, but instead are “instructions [to] change the content.” *Id.*

Because neither the April 2001 Application nor the Provisional Application provide support for the claimed “instructions,” neither supports a priority date earlier than January 18, 2002. *See also* Ex-1003, ¶¶117-120.

#### **D. Level of Ordinary Skill in the Art**

A POSITA would have had at least a bachelor’s degree in computer science, electrical or computer engineering, or equivalent, and at least two years of experience in distributed systems, multimedia streaming, and various HTTP-related technologies, or an equivalent amount of relevant work or research experience. Ex-1003, ¶¶58-61.<sup>5</sup>

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<sup>5</sup> Hulu’s Petition is supported by the Declaration of Dr. Henry Houh (Ex-1003).

He is qualified to provide an opinion as to what a person of ordinary skill in the art

**E. State of the Art<sup>6</sup>**

By the early 2000s, basic Internet protocols and techniques were well-known for transmitting messages over packet-switched networks such as the Internet. These techniques were also commonly applied to media streaming. The '846 Patent describes prior art systems by RealNetworks (Ex-1001, 30:4-5, 11:37-38) and Microsoft Windows Media Player (30:4, 48:6), which used play scripts like SMIL (*id.*, 11:37) and ASX (Ex-1051, [0110]). *See also* Exs-1013-1016; 1031-1035; 1043.

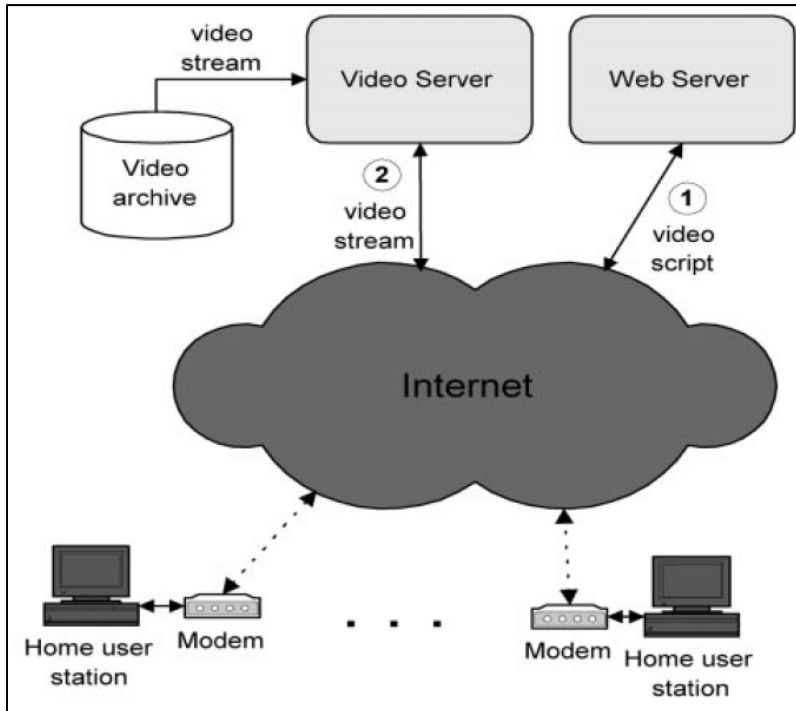
In the case of Windows Media Player, “ASF clips” (Microsoft’s native file format for streaming) were combined into play lists by creating ASX files that described each ASF clip and provided playback instructions, including instructions on where ASF files are located and what order to play them. Ex-1018, 1; *see also* Ex-1017, 1-3. ASX files could have instructions to insert advertisements. Ex-1017, 4, Ex-1018, 1. *See also* Ex-1036, Ex-1037, Ex-1038 (all discussing targeted internet advertising).

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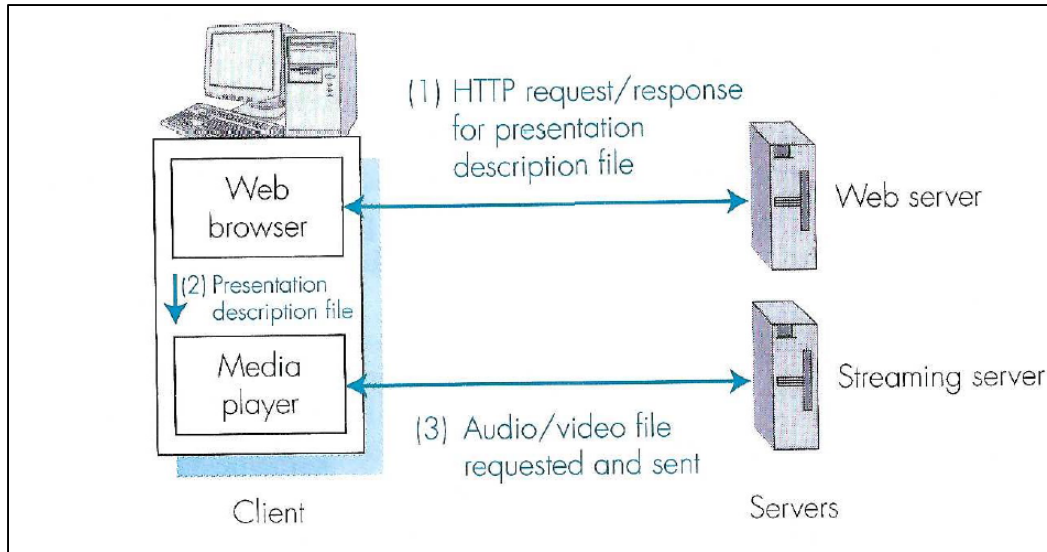
would have understood, known, or concluded as of January 19, 2001. This standard would not change if the priority date is determined to be a different date. *See* Ex-1003, ¶¶1-61, 123, 425-427; Ex-1004.

<sup>6</sup> This section is supported by Ex-1003, ¶¶62-106.

Content Delivery Networks (“CDNs”), developed by the late 1990s, provided content, including streaming media, via distributed network servers. *See* Exs-1020-1022, 1033. In 1998, Hua described “simplified on-demand video streaming over the Web” where a “Web server” sends “a video script corresponding to the video selection” to the user device, which “interpret[s] the script and make[s] a connection to the video server specified in the script” to stream the video. Ex-1025, 1; FIG. 1 (below):



Others described an “architecture” where “[o]ne server, the HTTP server, serves Web pages (including meta files)” and a “second server, the streaming server, serves the audio/video files.” Ex-1026, 496; FIG. 6.3 (below):



#### IV. CLAIM CONSTRUCTION

Petitioner applies the *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc) claim construction standard as articulated by the Board. *See* 83 Fed. Reg. 51340, 51343 (Oct. 11, 2018). Petitioner proposes the following construction:

A “**settlement record**” is a “**billable event record to be used for revenue settlement purposes.**” This construction is supported by the claims and specification. Claims 39, 45, 68, and 98 all indicate that the settlement record is associated with “streaming the at least the portion of the requested media” and is accordingly generated on a per-ad basis. The specification equivalent is called a “message sequence detail record (MSDR)” which is created for each reservation. Ex-1001, 12:16-20. The MSDR logs information about what was streamed to the viewer and “represents a billable event record that will be used for revenue

settlement purposes.” Ex-1001, 12:25-26; *see also* 12:58-62 (“MSDR creates an auditable event record that is used for operational measurements and billing.”).

*See also* Ex-1003, ¶¶121-122.

Hulu reserves the right to oppose claim constructions proposed in this proceeding or to propose additional constructions in the district court.

## **V. SPECIFIC EXPLANATION OF GROUNDS FOR INVALIDITY**

### **A. Ground 1: Eyal Combined with Angles Render Obvious Claims 39-40, 45, 47, 52, 68, 98-101, 103, 111, and 115-117.**

#### **1. Overview of Eyal (Ex-1005)**

U.S. Patent No. 6,389,467 (“Eyal”), titled “Streaming Media Search and Continuous Playback System of Media Resources Located by Multiple Network Addresses,” was filed on May 2, 2000 and issued on May 14, 2002. Ex-1005, Cover. Eyal is prior art under at least 35 U.S.C. §102(e). Ex-1003, ¶124.

Eyal describes “a computer system” for “continuous streaming media playback from a distribution of sites” over a network like the Internet. Ex-1005, 1:16-19. Eyal describes many features of its system in detail. Its detailed description begins with a “System Overview” (*id.*, 8:45-10:15), followed by descriptions of subsystems like the “Search and Playback System,” (*id.*, 10:16-18:8), and the “Media Search Engine,” (*id.*, 18:9-24:31). Eyal further explains a “Verification and Extraction Flow Processes” (*id.*, 24:32-28:58) and a “Rating System for Media Play Back” (*id.*, 28:59-31:59) for use in the system, along with

further description of how to implement “Personalized Media Playback” (*id.*, 31:60-32:19), a “Distributed Architecture” (*id.*, 32:20-34:3), “Messaging Applications” (*id.*, 34:4-35:57), and a “User Interface” (*id.*, 35:58-38:22). A POSITA would have understood that these sections relate to the same invention and would have expected them to work together as described by Eyal. Ex-1003, ¶125.

Eyal allows “streaming media [to] be continuously outputted to users from multiple sites on the Internet based on personalized criteria.” *Id.*, 10:1-3. Ex-1003, ¶¶125-127. Figure 19, annotated below, shows this.

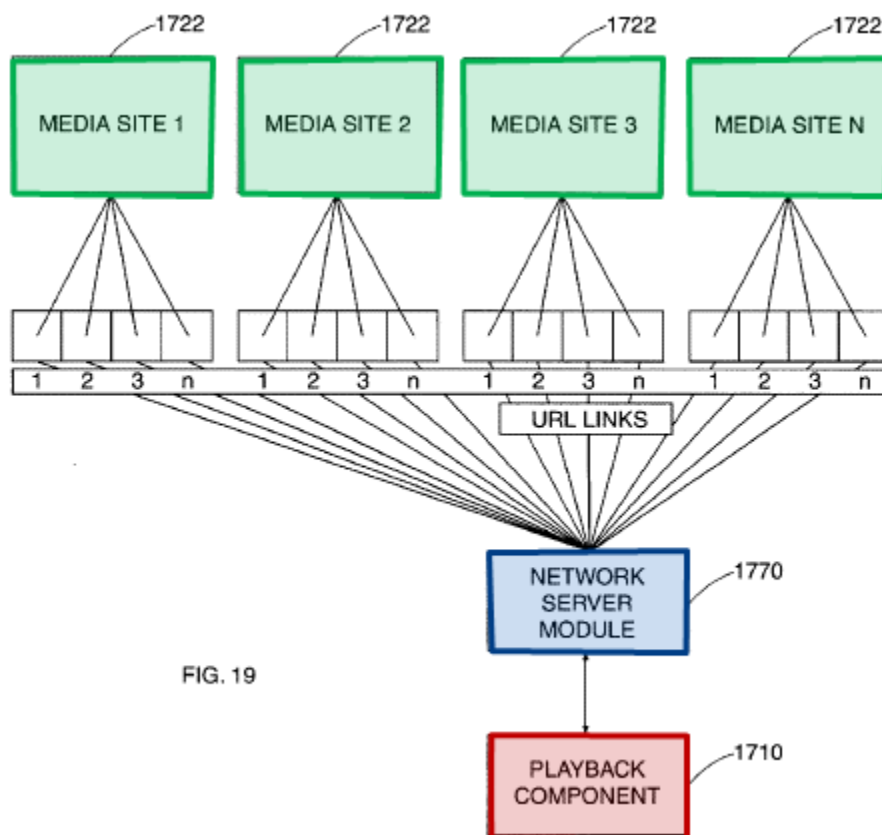


FIG. 19



After receiving the request for media, a play-list generator creates a play-list where “each link in the play-list locat[es] a media file on the network,” and sends that play-list in a response to the requesting device. Ex-1005, 4:47-55; *see also* 9:13-21. To playback the requested media, the “user terminal then accesses the URL and loads the web resource associated with that media link into a streaming media playback component.” *Id.*, 27:37-40. The user device repeats this process with other URLs on the play-list. *See id.*, 27:47-60. Ex-1003, ¶128.

Eyal teaches inserting targeted advertisements between media clips in the play-list. Ex-1005, 13:1-8. The play-list also includes metadata (*e.g.* duration, media URL, source website, media type, broadcast quality, and image size) and provides instruction to the playback device. *Id.*, 12:43-63. Ex-1003, ¶129.

## **2. Overview of Angles (Ex-1045)**

U.S. Patent No. 6,385,592 (“Angles”), titled “System and Method for Delivering Customized Advertisements within Interactive Communication Systems,” was filed on June 30, 1999 and issued on May 7, 2002. Ex-1045, Cover. Angles is prior art under at least 35 U.S.C. §102(e). Ex-1003, ¶130.

Angles describes delivering customized electronic advertisements in an interactive communication system that includes web sites with audio and video content. Ex-1045, Abstract, 10:23-26, 12:44-48, 13:53-59, 21:65-22:5. Angles’s “customized advertisements are selected based on consumer profiles.” *Id.*,

Abstract. Angles also describes “monitor[ing] the number of advertisements viewed by consumers associated with a particular content provider,” such that “the content providers can receive advertising revenue based on the number of consumers who access their websites,” and the “advertisement provider... pay[s] the content provider based on the volume of advertisements actually displayed by the content provider.” Ex-1045, 4:19-28, 16:30-33. Angles also discusses crediting consumers/viewers and Internet service providers. Ex-1045, 16:10-56, 21:19-41. *See also* Ex-1003, ¶131.

### **3. Reasons to Combine**

A POSITA would have been motivated to use Angles’s targeted advertisements, user profiles, advertisement/revenue tracking, and revenue sharing with Eyal’s streaming media system because Eyal’s desire to utilize targeted advertising would be better achieved with the mechanisms for tailored advertising, tracking, and charging taught by Angles. Eyal teaches responding to requests with “play-lists” comprising URLs identifying requested media, the delivery server for retrieving the media, and metadata associated with the media. Ex-1005, 19:30-20:38. Eyal also teaches inserting advertisements that are “targeted to the audience” into the play-lists. Ex-1005, 13:1-8. Likewise, Angles teaches the same concept of embedded targeted advertising, but in even more detail, by “delivering customized electronic advertisements” that are “selected based on consumer

profiles” and then “integrated” with other content. Ex-1045, Abstract. Angles also describes monitoring and tallying viewed advertisements so “the content providers can receive advertising revenue based on the number of consumers who access their websites.” *Id.*, 4:19-28. A POSITA would have been motivated to use teachings from similar systems to track advertisement delivery and determine the necessary payments/credits for revenue derived from advertisement delivery. Ex-1003, ¶¶147-149.

A POSITA would have recognized that Angles’s advertisement delivery and tracking was easily implemented on Eyal’s servers and there was a reasonable expectation of success doing so. Ex-1003, ¶150. Angles uses “conventional computer[s]” for its content/advertisement provider computers, so their functions could be readily implemented without adding any specialized hardware. *See* Ex-1045, 12:30-32, 13:38-40. Moreover, Eyal and Angles structure their respective servers’ functionalities as “modules.” *Compare* Ex-1005, FIG. 2 (“Play-lists generator module,” “Web server module,” and “Back-end Database Management System Module”) *with* Ex-1045, FIG. 4 (“content server module” and “advertising module”). *See also* Ex-1003, ¶¶150-151.

Finally, both Angles and Eyal store media information in a database accessible from the system’s back-end. *See* Ex-1005, 31:20-59; Ex-1045, FIG. 4. A POSITA would have a reasonable expectation of success combining the

conventional databases, and would understand how to add data from one system into another. *See* Ex-1055, 62; Ex-1054, 187-190; Ex-1003, ¶¶150-152.

**4. Claim 39**

**a. Preamble: “A method comprising:”**

Eyal’s “method for playing back media from a network” teaches the preamble. Ex-1005, 1:63-64; Ex-1003, ¶¶153-154.

**b. Element [39.a]: “receiving, at at least one computing device via a communication network, a request for media from at least one communication device, the at least one communication device capable of executing instructions received from the at least one computing device to obtain at least one portion of the requested media using at least one resource other than the at least one computing device;”**

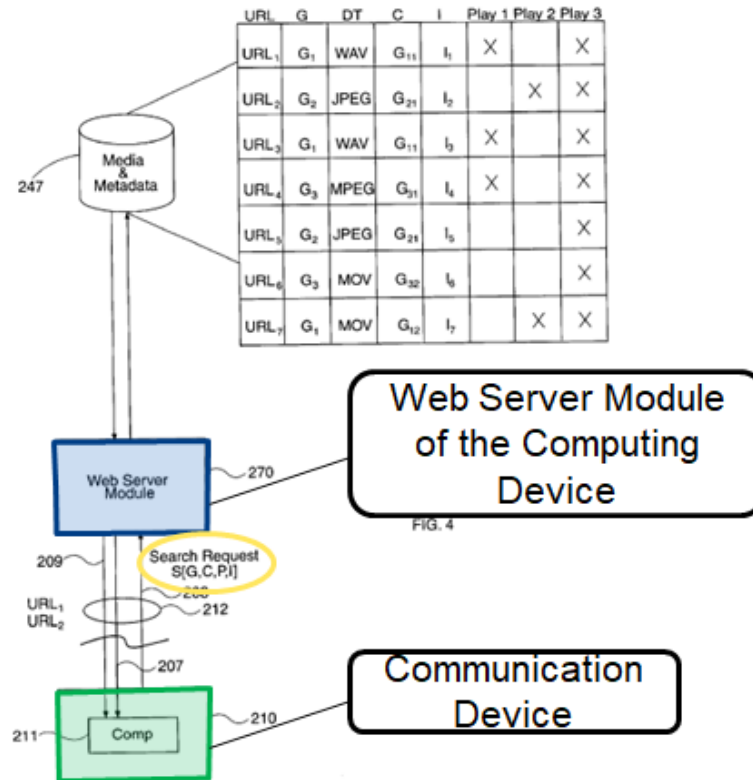
Eyal teaches “receiving a request for media playback from a network enabled device.” Ex-1005, 1:63-65. An “end terminal,” (*i.e.*, the communication device), sends the request to server modules, which collectively constitute the claimed computing device. *Id.*, 19:30-40; *see also* 10:17-18.<sup>7</sup> The “web server

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<sup>7</sup> If Patent Owner argues Eyal does not teach combining modules on one computing device, a POSITA would have found it obvious to do so. Ex-1003, ¶156. A POSITA would have desired to minimize the number of devices necessary to execute such functions, at least for the purpose of building and testing the Eyal system. *Id.* Eyal itself suggests combining multiple modules on one

module” receives the request via a communication network. Ex-1005, 19:30-40,

FIG. 4 (annotated below); *see also* 10:33-38.



Eyal’s server modules (the computing device) provide the end terminal with instructions to obtain a portion of the requested media. *See* element [39.c.3]. The modules also provide the end terminal with an identification of a resource other than the modules (URLs mapping to media sites). *See* element [39.c.2]. The user

device by using the term “modules” rather than devices and indicating that “one or more” may be present “on a server.” Ex-1005, 10:17-18; *see also* 11:38-44 (modules “can exist with other modules on the same server.”)

terminal's "media play-back component" executes the instructions and uses the identification of another resource (the URLs) to access sites on the network (the other resource) and play back media from those sites. Ex-1005, 20:30-49; *see also* 27:47-53, Ex-1003, ¶¶155-159.

- c. **Element [39.b]: "identifying, at the at least one computing device, whether the requested media is available for streaming to the at least one communication device in accordance with at least one program;"**

Eyal's modules (the computing device) include a database management system (Ex-1005, 13:65-14:9) and a program, called the "automatic media verification and metadata extraction (AMVME) module," that identifies whether media is available for streaming (*id.*, 14:50-52). The AMVME "verifies each media link in media and metadata table," including verifying each media link is "available for playback." *Id.*, 14:52-60. "[B]roken links," and "inoperational or unavailable media" are not verified (*Id.*, 12:35-36), whereas verified links are "structured into play-lists" (*Id.*, 12:64-67). Thus, in accordance with the AMVME, Eyal's modules identify whether requested media available for streaming. *See also* Ex-1003, ¶¶160-161.

- d. **Element [39.c]: “generating, at the at least one computing device based on the at least one program, one or more capabilities of the communication device, and at least one characteristic associated with a user of the communication device,”**

Eyal teaches generating a response to the communication device’s request.

Ex-1005, 19:30-40; *see also* 15:37-45. The response is generated based on play-lists with links in the media and metadata database that have been “programmatically verified” by the AMVME program to be available for playback by users. *Id.*, 19:21-23; 19:35-38.

Eyal teaches generating the response based on the end-terminal’s capabilities. Eyal teaches adjusting the URLs in the response to specify different protocols based on the communication device’s player. *Id.*, 21:35-46 (describing using “HTTP” or “PNM” protocol signals in URLs depending on “the media playback component”); *see also* 13:52-54.

Eyal also explains generating the response based on characteristics associated with the communication device’s user. The play-lists in Eyal’s response are “personalized for the user” and “generated for preferences and profiles specified by the user.” Ex-1005, 33:9-15; *see also* 31:29-31, FIG. 17. Eyal’s play-lists can also include “streaming media commercials” that are “targeted to the audience.” Ex-1005, 13:3-4. *See also* Ex-1003, ¶¶162-165.

- (1) Element [39.c.1]: “(i) at least one list identifying at least a portion of the requested media,”

Eyal teaches “metadata” including “identifier information” like the “name of a specific media creation.” Ex-1005, 20:9-14; *see also* 12:37-63 (“identification” metadata). The response returned to the user includes this metadata. *Id.*, 20:30-36 (“response 209 may also include metadata information”); *see also* 15:55-58 (end terminal “reads media URLs and metadata stored in one or more play-list”); 15:37-41. A POSITA would understand that these teachings constitute identifying a portion of the requested media. Ex-1003, ¶¶166-167.

- (2) Element [39.c.2]: “(ii) at least one identification of the at least one resource other than the at least one computing device available to facilitate streaming of the at least one portion of the requested media, and”

Eyal teaches that the URLs sent in the response map to addresses of media sites (*i.e.*, a resource other than the computing device) that facilitate streaming the requested media. *See* Ex-1005, 19:41-54, 20:30-39. The description of Eyal’s “Distributed Architecture” (*id.*, 32:20-34:3) further explains that the media sites are “network sites that provide access to media” and each media site has “one or more links to media web resources [which are] represented by URLs.” Ex-1005, 32:45-48. The media sites “correspond to different locations on a network such as the Internet,” and “may have different Internet addresses, including different domains.” Ex-1005, 32:54-57. A POSITA would understand that these teachings



constitute an identification of a resource other than Eyal's server modules. Ex-1003, ¶¶168-169.

- (3) Element [39.c.3]: “(iii) one or more instructions as to how the at least one portion of the requested media is to be streamed to the communication device;”

Eyal teaches including instructions in the response to the end terminal's request. Eyal's “flow process for... a user terminal to playback streaming media programming determined by play-lists” exemplifies its teachings. *See* Ex-1005, 27:1-28:58. Eyal includes instructions to obtain media from the play-list's URLs in a particular sequence: “The sequence for automatically and continuously playing back media may be repeated for each media link included in the play-list.” Ex-1005, 27:53-55. Eyal also teaches generating the response based on metadata in the media and metadata database specifying instructions. Ex-1005, 27:33-37 (“Each play-list may include one or more media link URLs and media metadata”), 27:27-30 (“play-list may store two or more media links, and preferably a plurality of media links”), 27:47-51 (teaching continuously playing media by accessing media on one site and then accessing the next media from a different site). As discussed for element [39.c.1], Eyal further teaches including a wide variety of metadata instructing the communication device how to obtain, present, and adjust the media—like duration, media URL, source web site, media type, clip broadcast quality, and image size for videos—in the play-list. *Id.*, 12:43-63. Eyal also

teaches inserting advertisements. Ex-1005, 13:1-4. A POSITA would understand that these teachings constitute instructions for how to stream media to the end-user's device. Ex-1003, ¶¶170-174.

- e. **Element [39.d]: “transmitting the at least one list, the least one identification of the at least one resource, and the one or more instructions from the at least one computing device to the at least one communication device via the communication network;”**

Eyal's web server module transmits the response including the play-lists to the user terminal. Ex-1005, 20:30-64 (“response 209 is signaled to the media playback component” including “metadata,” “URLs,” “one or more play-lists” “URLs... in groups []such as in play-lists”), FIG. 4; *see also* 7:22-23, 9:14-16 (“media playback component on the user terminal interacts with one or more play-lists generated by server side modules.”), 10:10-15 (users can send/receive play-lists). *See also* Ex-1003, ¶¶175-176.

- f. **Element [39.e]: “identifying at least one revenue sharing rule for sharing between at least two parties at least a percentage of revenue generated by streaming the at least the portion of the requested media; and”**

Eyal teaches “links to streaming media commercials may be inserted into the play-lists in various locations between media clips.” Ex-1005, 13:1-4. Building upon Eyal's commercial clip teachings, Angles teaches an “advertising module” that implements a revenue sharing rule between content providers, Internet service

providers and pay consumers. Ex-1045, 15:25-43, 16:20-56. The advertising module uses information to “distribute the revenue” from advertisements “as a bonus to the content providers and consumers.” Ex-1045, 20:39-49; *see also* 16:30-33 (“advertisement provider... pay[s] the content provider based on the volume of advertisements actually displayed by the content provider”). A POSITA would have been motivated to combine Angles’s advertising module with Eyal’s system to track delivery of advertisements and more efficiently determine what payments and credits are needed for revenue derived from the delivery of those advertisements. Ex-1003, ¶¶177-180.

- g. Element [39.f]: “generating at least one settlement record based on the at least one revenue sharing rule for sharing between the at least two parties the at least the percentage of revenue generated by streaming the at least the portion of the requested media.”**

Angles further teaches an “advertising module” that “accesses the accounting database” and “debits the appropriate advertiser account, credits the content provider account and credits the appropriate consumer account”—specifically, it “stores the advertising audit information in the accounting database” and “[w]ith the advertising audit information,... determines which advertiser should pay for the customized advertisement,” “debits the appropriate advertiser account,” “credits the content provider’s account,” and “credits the appropriate consumer account.” Ex-1045, 21:19-36. The “advertisement audit information”

includes “which advertisements are viewed by consumers,” “which content providers are requesting customized advertisements,” and “the number and type of advertisements which are being displayed by a particular content provider computer.” Ex-1045, 16:10-19; *see also* 16:20-56. The claimed settlement record, as construed in Section IV, is met by these data stored in Angles’s “accounting database” because it records billable events (advertisements) for revenue settlement purposes (debiting/crediting the correct accounts) based on the revenue sharing rule described discussed for element [39.e]. *See also* Ex-1003, ¶¶181-183.

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Eyal combined with Angles renders obvious claim 39. *See also* Ex-1003, ¶184.

5. **Claim 40: “The method of claim 39, further comprising streaming, from the at least one resource or at least one other resource, the at least the portion of the requested media for reception by the at least one communication device.”**

As described for the “Distributed Architecture” of Eyal (Ex-1005, 32:20-34:3), the “media playback component” of Eyal’s “user terminal” “accesses each link” in the distributed system to “playback the media resource.” Ex-1005, 32:62-65. This playback is “streaming media playback.” *Id.*, 1:18-19. As discussed for element [39.c.2], the media sites are at least one other resource. *See also* Ex-1003, ¶¶185-186.

**6. Claim 45**

**a. Preamble: “A method comprising:”**

*See* Section V.A.4.a (element [39.pre]); Ex-1003, ¶¶187-188.

**b. Element [45.a]: “receiving, at at least one computing device via a communication network, a request for media from at least one communication device, the at least one communication device capable of executing instructions received from the at least one computing device to obtain at least one portion of the requested media using at least one resource other than the at least one computing device,”**

*See* Section V.A.4.b (element [39.a]); Ex-1003, ¶¶189-190.

**c. Element [45.b]: “the requested media associated with at least one revenue sharing rule requiring sharing of at least a percentage of revenue generated by streaming the at least one portion of the requested media;”**

This element is similar to element [39.e], and adds that the requested media is “associated with” the revenue sharing rule. Angles teaches that the requested media is associated with the sharing rule through the use of targeted advertising, which relates the requested media to the revenue-generating advertisement. *See* Ex-1045, Abstract (“customized advertisements are selected based on consumer profiles and are then integrated with offerings maintained by different content providers.”). The remaining limitations of this element are met for the reasons discussed in Section V.A.4.f (element [39.e]). *See also* Ex-1003, ¶¶191-193.

- d. **Element [45.c]: “identifying, at the at least one computing device, whether the requested media is available for streaming to the at least one communication device;”**

*See* Section V.A.4.c (element [39.b]); Ex-1003, ¶¶194-195.

- e. **Element [45.d]: “identifying, at the at least one computing device, at least one rule for providing a streaming service associated with the requested media;”**

A POSITA would have understood that Eyal’s server modules use a rule to determine what media to identify for streaming, such as selecting streamed advertisements associated with the requested media because Eyal teaches that the streaming media commercials inserted into the play-lists “are targeted to the audience likely to listen to the media available on the play-list” and such targeting would have been accomplished by a respective rule. Ex-1005, 13:1-5; Ex-1003, ¶196. Eyal’s server modules also generate play-lists based on various other rules, such as predefined categories of characteristics stored on a database (*id.*, 15:37-45), the ratings of certain media (*id.*, 28:58-31:59, describing Eyal’s “Rating System”), or otherwise personalized for the viewer (*id.*, 31:60-32:19, describing “Personalized Media Playback”). *See also* Ex-1003, ¶¶197-198.

- f. **Element [45.e]: “processing the at least one rule from among a plurality of other rules for providing other streaming service associated with other media;”**

As discussed for element [45.d], Eyal teaches various rules for targeted advertising and selecting media based on certain characteristics to determine other

media content to provide to the consumer. The server modules process these rules to “access[] media and metadata database 247 for URLs that have all of the parameters set forth in the search criteria” and “retrieves the URLs matching the criterias.” Ex-1005, 20:27-30. The processed rule is selected from the many rules present in Eyal’s system. *See, e.g.*, Ex-1005, 13:1-8 (advertisement insertion), 13:21-26 (ratings), 15:37-45 (predefined categories), 21:35-46 (protocol or format), 27:6-8 (user search criteria), 27:47-60 (sequence); *see also* 26:19-26 (media genre), 29:64-30:6 (ratings), 31:6-13 (ratings), 33:10-15 (user preferences and profiles). The inclusion of these references in the play-list would cause that media to be streamed to the user terminal as discussed in claim 39. *See also* Ex-1003, ¶¶199-200.

- g. Element [45.f]: “generating, at the at least one computing device based on the at least one rule, one or more capabilities of the communication device, and at least one characteristic associated with a user of the communication device,”**

This element is substantively similar to element [39.c], except for inclusion of a “rule.” As discussed for elements [45.d] and [45.e], Eyal teaches using a rule to select the media for inclusion in the play-lists. Thus, the play-list is “generated” based on the rule. *See also* Ex-1003, ¶¶201-203.

- (1) Element [45.f.1]: “(i) at least one list identifying at least a portion of the requested media,”

*See* Section V.A.4.d.1 (element [39.c.1]); Ex-1003, ¶¶204-205.

- (2) Element [45.f.2]: “(ii) at least one identification of the at least one resource other than the at least one computing device available to facilitate streaming of the at least one portion of the requested media, and”

*See* Section V.A.4.d.2 (element [39.c.2]); Ex-1003, ¶¶206-207.

- (3) Element [45.f.3]: “(iii) one or more instructions as to how the at least one portion of the requested media is to be streamed to the communication device;”

*See* Section V.A.4.d.3 (element [39.c.3]); Ex-1003, ¶¶208-209.

- h. Element [45.g]: “transmitting the at least one list, the least one identification of the at least one resource, and the one or more instructions to the at least one communication device from the at least one computing device via the communication network; and”**

This element is substantively similar to element [39.d], but specifies that the list, identification, and instructions are transmitted from the computing device.

Eyal’s teachings discussed for [39.d] also teach this element because the response is sent from the web server module (computing device) to the user terminal (communication device). *See also* Ex-1003, ¶¶210-211.



- i. **Element [45.h]: “producing at least one settlement record reflecting a sharing of the at least the percentage of revenue generated by streaming the at least the portion of the requested media.”**

While worded differently from element [39.f], the teachings discussed for that element also teach element [45.h]. *See* Ex-1003, ¶¶212-215 (comparing the elements).

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Eyal combined with Angles renders obvious claim 45. *See also* Ex-1003, ¶216.

- 7. **Claim 47: “The method of claim 45, wherein the revenue sharing rule is identified as an advertising revenue sharing rule.”**

As discussed for element [39.e], a POSITA would be motivated to combine Angles’s advertising module with Eyal’s system to track delivery of advertisements and determine what payments and credits are needed for revenue derived from them. Ex-1003, ¶¶217. Angles teaches an “advertising module” that implements an advertising revenue sharing rule (here, a rule for sharing advertising revenue between multiple parties). Ex-1045, 15:25-43, 16:20-56, 21:9-44. A POSITA would have understood that Angles’s revenue sharing rule is an advertising revenue sharing rule because Angles states that the shared revenue comes from advertising. Ex-1045, 16:45-49; *see also* Ex-1003, ¶¶218-219.

8. **Claim 52:** “The method of claim 45, wherein the at least one rule is selected from at least one of a service rule identifying how a media viewing should be paid, a storage rule identifying where the at least the portion of the requested media will be located for storage, a collection rule identifying an entity collecting a payment for services rendered, and a viewing rule identifying acceptable viewers that can receive the at least the portion of the requested media.”

Angles teaches a service rule identifying how a media viewing should be paid (*i.e.*, through advertising revenue). Angles also teaches a collection rule identifying an entity collecting a payment for services rendered, including at least two entities collecting payment for services (*i.e.*, content providers and Internet providers). *See* Ex-1045, 16:28-56, 20:39-49; *see also* Ex-1003, ¶¶220-221.

9. **Claim 68**

a. **Preamble: “A method comprising:”**

*See* Section V.A.4.a (element [39.pre]); Ex-1003, ¶¶222-223.

- b. **Element [68.a]: “receiving, at at least one computing device via a communication network, a request for media from at least one communication device, the at least one communication device capable of executing instructions received from the at least one computing device to obtain at least one portion of the requested media using at least one resource other than the at least one computing device,”**

*See* Section V.A.4.b (element [39.a]); Ex-1003, ¶¶224-225.

- c. **Element [68.b]: “the requested media is further associated with at least one revenue sharing rule requiring sharing of at least a percentage of revenue generated by streaming the at least one portion of the requested media;”**

*See* Section V.A.6.c (element [45.b]); Ex-1003, ¶¶226-227.

- d. **Element [68.c]: “identifying, at the at least one computing device, whether the requested media is available for streaming to the at least one communication device;”**

*See* Section V.A.4.c (element [39.b]); Ex-1003, ¶¶228-229.

- e. **Element [68.d]: “identifying, at the at least one computing device, at least one rule for providing a streaming service associated with the requested media;”**

*See* Section V.A.6.e (element [45.d]); Ex-1003, ¶¶230-231.

- f. **Element [68.e]: “processing the at least one rule from among a plurality of other rules for providing other streaming service associated with other media;”**

*See* Section V.A.6.f (element [45.e]); Ex-1003, ¶¶232-233.

- g. **Element [68.f]: “generating, at the at least one computing device based on one or more capabilities of the communication device and at least one characteristic associated with a user of the communication device,”**

*See* Section V.A.4.d (element [39.c]); Ex-1003, ¶¶234-235.

- (1) **Element [68.f.1]: “(i) at least one list identifying at least a portion of the requested media,”**

*See* Section V.A.4.d.1 (element [39.c.1]); Ex-1003, ¶¶236-237.

- (2) Element [68.f.2]: “(ii) at least one identification of the at least one resource other than the at least one computing device available to facilitate streaming of the at least one portion of the requested media, and”

*See* Section V.A.4.d.2 (element [39.c.2]); Ex-1003, ¶¶238-239.

- (3) Element [68.f.3]: “(iii) one or more instructions as to how the at least one portion of the requested media is to be streamed to the communication device;”

*See* Section V.A.4.d.3 (element [39.c.3]); Ex-1003, ¶¶240-241.

- h. Element [68.g]: “transmitting the at least one list, the at least one identification of the at least one resource, and the one or more instructions to the at least one communication device from the at least one computing device via the communication network; and”**

*See* Section V.A.6.h (element [45.g]); Ex-1003, ¶¶242-243.

- i. Element [68.h]: “generating at least one settlement record based on the at least one revenue sharing rule to reflect a sharing of the percentage of revenue generated by streaming the at least the portion of the requested media.”**

While worded differently from element [39.f], the teachings discussed for that element also teach element [68.h]. *See* Ex-1003, ¶¶244-247 (comparing the elements).

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Eyal combined with Angles renders obvious claim 68. *See also* Ex-1003, ¶¶248.

**10. Claim 98**

**a. Preamble: “A media streaming management method comprising:”**

Eyal teaches a media streaming management method. *See* Ex-1005, 1:15-16; Ex-1003, ¶¶249-250.

**b. Element [98.a]: “receiving, via a communication network by at least one computing device, a request from a communication device to receive streamed media, the communication device capable of executing instructions received from the at least one computing device to obtain at least one portion of the requested media using at least one resource other than the at least one computing device,”**

Element [98.a] is substantively similar to element [39.a], except that element [98.a] specifies that the requested media is “streamed media.” Eyal teaches streamed media. *See* Ex-1005, 1:15-16; Ex-1003, ¶¶251-252.

**c. Element [98.b]: “wherein the requested media is associated with at least one revenue sharing rule requiring sharing of at least a percentage of revenue generated by streaming the at least one portion of the requested media;”**

*See* Section V.A.6.c (element [45.b]); Ex-1003, ¶¶253-254.

- d. **Element [98.c]: “in response to receiving the request for media to be streamed to the communication device, and based on one or more capabilities of the communication device and at least one characteristic associated with a user of the communication device, generating and transmitting by the at least one computing device to the communication device, over the communication network, a communication including:”**

Eyal teaches element [98.c] for the reasons discussed for element [39.c].

Eyal additionally teaches transmitting the response to the end user device, from the server modules, over the Internet, in response to the end user’s request. Ex-1005, 20:30-64, 10:33-38 (Internet); *see also* 7:22-23, 9:14-16; Ex-1003, ¶¶255-256.

- (1) Element [98.c.1]: “(i) at least one identification of the at least one portion of the requested media,”

Element [98.c.1] is substantively similar to element [39.c.1], except that element [98.c.1] requires “at least one identification” of media, whereas element [39.c.1] requires a list. Eyal’s play-list identifies portions of requested media. Ex-1005, 20:9-14 (“name of a specific media creation”), 20:30-36; *see also* 12:37-63, 15:37-41, 15:55-58; Ex-1003, ¶¶257-258.

- (2) Element [98.c.2]: “(ii) at least one identification of the at least one resource other than the at least one computing device available to facilitate streaming of the at least one portion of the requested media, and”

*See* Section V.A.4.d.2 (element [39.c.2]); Ex-1003, ¶¶259-260.

- (3) Element [98.c.3]: “(iii) one or more instructions as to how the at least one portion of the requested media is to be streamed to the communication device; and”

*See* Section V.A.4.d.3 (element [39.c.3]); Ex-1003, ¶¶261-262.

- e. **Element [98.d]: “producing at least one settlement record reflecting a sharing of the percentage of revenue generated by streaming the at least the portion of the requested media.”**

While worded differently from element [39.f], the teachings discussed for that element also teach element [98.d]. *See also* Ex-1003, ¶¶263-266 (comparing the elements).

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Eyal combined with Angles renders obvious claim 98. *See also* Ex-1003, ¶267.

11. **Claim 99: “The media streaming management method of claim 98, wherein the at least one characteristic associated with the user comprises at least a user identification and the method comprises in response to receiving the request for media to be streamed to the communication device, and based on the one or more capabilities of the communication device and at least the user identification, generating and transmitting the communication.”**

Claim 99 is substantively identical to element [98.c], but additionally requires “user identification” as the claimed “characteristic.” As discussed for element [39.c], Eyal teaches that the response’s play-lists may be “personalized for the user of the end terminal” and “generated for preferences and profiles specified

by the user” and can include “streaming media commercials” that are “inserted into the play-lists in various locations between media clips... [and] targeted to the audience.” Ex-1005, 33:9-15, 13:3-4.

To the extent that Eyal does not explicitly teach a user identification, Angles teaches assigning a unique member code to each consumer. Ex-1045, 3:26-27. Angles teaches that “the advertisement provider... obtains the consumer’s member code... uses the consumer member code to identify the consumer’s demographic profile and preferences... selects an appropriate advertisement based on the consumer’s profile and sends the customized advertisement to the consumer computer.” Ex-1045, 3:56-67. *See also* Ex-1003, ¶¶268-270.

- 12. Claim 100: “The media streaming management method of claim 98, wherein the at least one characteristic associated with the user is selected from at least one of a profile associated with the user, a preference associated with the user, demographic information associated with the user, a history associated with the user, an audience characteristic associated with the user, and a geographic location associated with the user.”**

Eyal teaches that the response’s play-lists are “personalized for the user of the end terminal” and “generated for preferences and profiles specified by the user.” Ex-1005, 33:9-15; *see also* 31:29-31, FIG. 17. Eyal’s play-lists also include “streaming media commercials” that are “targeted to the audience.” Ex-1005, 13:3-4. *See also* Ex-1003, ¶¶271-272.



- 13. Claim 101: “The video streaming management method of claim 98, further comprising generating the communication comprising (iv) a unique identifier for use by at least the communication device to enable the at least one portion of the requested media to be streamed to the communication device.”**

Eyal uses URLs in play-lists. *See* element [39.c.2]. Each URL is a unique identifier for a media file that is used by the communication device to stream requested media. *See* Ex-1005, 19:47-51 (Each URL “provides direct access to a web resource containing media” and “is characterized by one or more parameters that correspond to metadata information about the web resource.”). Eyal teaches further that its “media links (URLs)” contain “metadata” like “identification” and “description,” among others. Ex-1005, 12:28-67. A POSITA would understand that this metadata, included in Eyal’s URLs, uniquely identifies the linked media. Ex-1003, ¶¶273-274.

- 14. Claim 103: “The media streaming management method of claim 98, wherein the one or more attributes of the communication device include at least one member of a group consisting of a type of the communication device, a type of player used by the communication device, a format used by the communication device, a protocol used by the communication device, previously collected information about the communication device, a geographic location of the communication device, an internet protocol (IP) address associated with the communication device, and a type of the communication network, the method further comprising generating and transmitting the communication based on the at least one member of the group.”**

Eyal’s response is based on attributes of the communication device including a format and protocol used by the communication device. Eyal teaches delivering media to user terminals (communication devices) with “media players” such as “RealNetwork Player,” “Microsoft Windows Media Player” and “Apple QuickTime,” which use different formats, such as RM files for RealNetwork players. Ex-1005, 27:13-20; *see also* 21:35-46.

Eyal’s communication devices also use different protocols. *See id.*, 21:35-46 (“PNM,” “HTTP,” “RTSP”). Eyal’s response is generated based in part on the format and protocol of the user terminal. For example, “[t]he identified links are then made available to network enabled devices that can select one or more of the links.” *Id.*, 18:13-15; *see also* 18:21-23 (“the network browser on a back end [] locate[s] the network resources of the specified data type.”). *See also* Ex-1003, ¶¶275-277.

- 15. Claim 111: “The media streaming management method of claim 98, further comprising generating the one or more instructions as to how the at least one portion of the requested media is to be streamed to the communication device to include one or more instructions relating to at least one of a media format, a media language, a media sequence, and an advertisement insertion.”**

Eyal teaches generating instructions related to the media format like MIME-typed files. Ex-1005, 19:30-66; *see also* 23:29-31 (“Examples of MIME types... include MOV, JPEG, RAM and WAVE”), 12:13-27. Eyal also teaches generating instructions related to the media sequence (*id.*, 20:30-38, 27:51-55), and advertisement insertion (*id.*, 13:1-8). *See also* Ex-1003, ¶¶278-280.

- 16. Claim 115: “The media streaming management method of claim 98, wherein receiving the request for media comprises receiving a request for video.”**

Eyal teaches receiving requests for video. *See, e.g.*, Ex-1005, 11:31-37 (“video,” “movie clips, home movies, movie trailers, or highlights from sporting events”), 1:20-25 (“Streaming media available on the Internet include... video.”). *See also* Ex-1003, ¶¶281-282.

- 17. Claim 116: “The media streaming management method of claim 98, further comprising generating the at least one identification of the at least one portion of the requested media as at least one uniform resource locator (URL).”**

Eyal teaches that to generate a play-list, the “play-list generator module...accesses media and metadata list...for URLs to media contained on stored media links.” Ex-1005, 15:37-41. “To playback media, server-side

modules may provide the media player with URLs to media links that are stored in each play-list.” Ex-1005, 27:33-37; *see also* 20:30-38. *See also* Ex-1003, ¶¶283-284.

**18. Claim 117: “The media streaming management method of claim 98, further comprising generating at least one identification of at least one other portion of the requested media in the communication.”**

Eyal teaches that the server modules respond to a request with a play-list containing multiple portions of the requested media. For example, a search request may set forth criteria “corresponding to one or more of a genre, category, play-list, or identifier.” Ex-1005, 20:25-27. Eyal’s server then “retrieves the URLs matching the criterias of the search request” and sends the response to the end terminal. Ex-1005, 20:30-38. Moreover, “when play-lists are requested, additional URLs multiple play-lists [*sic*] are provided.” *Id.*; *see also* 20:50-62, 26:33-42, 32:62-67; Ex-1003, ¶¶285-286.

**B. Ground 2: Eyal Combined with Angles and Chang Renders Obvious Claim 105**

**1. Overview of Chang (Ex-1009)**

U.S. Patent No. 6,715,126 (“Chang”), titled “Efficient Streaming of Synchronized Web Content from Multiple Sources,” was filed on September 15, 1999 and issued on March 30, 2004. Ex-1009, Cover. Chang is prior art under at least 35 U.S.C. §102(e).

Chang teaches a method for “efficiently delivering a presentation of web content comprised of a media, such as audio or video content... together with one or more other content sources.” Ex-1009, Abstract. In Chang, “various media are provided from different sources” (*id.*, 1:18-21), so Chang proposes a “HotAudio file” with metadata specifying frame rate, bit rate, and sequence (*id.*, 7:1-18, Table 4). *See also id.*, 4:11-12, 5:25-9:25, FIG. 2; Ex-1003, ¶¶132-133.

## **2. Reasons to Combine**

A POSITA would have been motivated to modify Eyal and Angles to incorporate Chang’s teaching of including metadata specifying frame rate, bit rate, and sequence in the communication sent to the viewer. Eyal and Chang both relate to media streaming over a network, such as the internet. Ex-1005, Abstract, 1:15-19; Ex-1009, Abstract, 1:15-21. Eyal’s play-list and Chang’s HotAudio File both comprise similar elements. Ex-1005, 9:14-20, Ex-1009, 5:27-34 & FIG. 2. Given their common field of endeavor and similar approaches, and that both teach improvements to streaming systems, a POSITA would have found it obvious to combine their teachings. Ex-1003, ¶287.

A POSITA would also have understood using Chang’s HotAudio file with the combined teachings of Eyal and Angles would be beneficial because Chang’s HotAudio file gives additional control to the system to ensure that play-lists were compatible with playback equipment, optimizing the equipment’s performance.

Ex-1003, ¶288. For example, Chang teaches that bitrate is important because “if the data rate of the incoming data is not fast enough, the player pauses when the data in its buffer is depleted.” Ex-1009, 2:46-55. Angles also recognizes this bandwidth problem. *See* Ex-1045, 12:15-16 (“current communications systems transfer data at much slower rates than local storage”). Chang solves this problem by considering bitrate. The resulting combination uses a known technique to improve a similar system without unexpected results, and a POSITA would have been motivated to make the combination because of the apparent benefits. Ex-1003, ¶¶287-288.

Moreover, all three systems use distributed architectures and internet connections for delivering content to end users. *See* Section V.A.3 (discussing Eyal and Angles architectures). In Chang, “various media are provided from different sources.” Ex-1009, 1:18-20. All three systems also use conventional components in conventional ways, including storing media information in a back-end accessible database. *See* Section V.A.3 (discussing Eyal and Angles back-end databases). Chang’s data are ideally suited for storage in database tables. *See* Ex-1009 at 5:25-8:22. A POSITA would have a reasonable expectation of success combining the conventional databases, and would understand how to add data from one system into another. *See* Ex-1055, 62; Ex-1054, 187-190; Ex-1003, ¶289. Furthermore, a POSITA would know how to link data from sub-records to records

in a database using well-known data-linking methods. *See* Ex-1055, 66-69; Ex-1054, 190; Ex-1003, ¶290. A POSITA would also have known how to select the appropriate records from the combined database. *See* Ex-1055, 73-74; Ex-1054, 192; Ex-1003, ¶290.

3. **Claim 105: “The media streaming management method of claim 98, further comprising generating and transmitting the communication based on one or more other rules associated with the requested media that specify at least one of a frame rate, a bit rate, a sequence associated with the requested media, and a format associated with the requested media.”**

Eyal teaches that URLs in the play-list are generated according to rules specifying the format associated with the requested media, such as HTTP or PNM protocol for files with RM format or RTSP for files having RAM format. Ex-1005, 21:35-46. Eyal’s play-lists are also based on sequence. *Id.*, 27:47-60.

If Claim 105 requires a generating and transmitting the communication also based on rules specifying frame rate, bit rate, and sequence, Chang’s “HotAudio File” teaches the remaining rules. Ex-1009, 5:25-40, 8:55-53. The HotAudio file’s metadata specifies frame rate, bit rate, and sequence. Ex-1009, 7:1-18 (“VFT\_FRAMERATE” and “[f]rame rate of the video”); 11:17-33 (“author designs the presentation to be delivered at a certain bit rate, Bl kbps”), 6:17-44 (“FFT\_SEQUENCENUM”).

Eyal and Chang teach claim 105's dependent limitation, and combined with Angles, render claim 105 obvious. *See also* Ex-1003, ¶¶291-293.

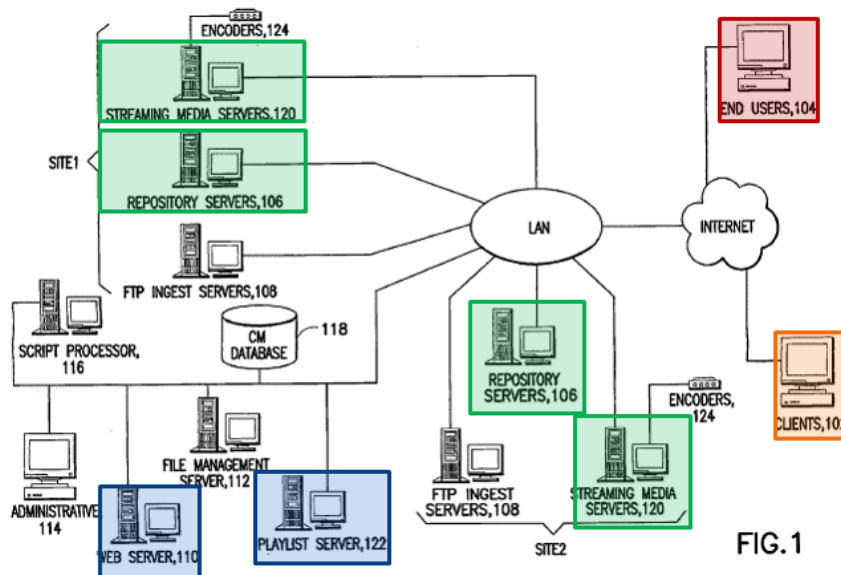
**C. Ground 3: Madison Combined with Wolfe Renders Obvious Claims 39, 45, 52, 68, 98-101, 103, 105, 111, 115, and 117.**

**1. Overview of Madison (Ex-1051)**

U.S. Patent Pub. No. US 2004/0083273 ("Madison"), titled "Method and System for Managing Digital Content, Including Streaming Media," was filed on January 18, 2002 and claims priority to Provisional Application No. 60/263,058 (Ex-1052), filed January 18, 2001. Ex-1051, Cover. Madison is prior art under at least 35 U.S.C. §102(e) as of its provisional filing date. Ex-1003, ¶134.

Madison teaches a "method and system for allowing clients to up-load, manage, and deliver streaming media content," including video, "via the Internet." Ex-1051, [0003], [0031]. In Madison, "clients... up-load streaming media content... manage such content, and make the content available to end users" through a "web site on the Internet." Ex-1051, [0020]. The client "up-loads streaming media content to the repository or storage server" (Ex-1051, [0022]), and the media content is "eventually transferred...to one or more streaming media server[s]..., where it is available for [Internet] streaming" (Ex-1051, [0025]). Figure 1, color-coded below, illustrates Madison's system. *See also* Ex-1003, ¶¶135-139.





In Madison, a user requests content by clicking a URL that identifies media content, such as a playlist with identification number “12345.” Ex-1051, [0106], [0107]. The request goes to a “playlist server” that “execute[s] the ‘makeplaylist.asp’ program and dynamically generate[s] a playlist redirector file.” Ex-1051, [0108]. The redirector file comprises a list of URLs for each stream file, including the prefix, hostname, and filename. Ex-1051, [0109], [0110]. Using the redirector file, “the end user’s media player pulls each identified stream file from the media server” “identified in the redirector file.” Ex-1051, [0111]. *See also* Ex-1003, ¶¶135-139. An exemplar redirector file is shown below. *See* Ex-1051, [0110].

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```
<ASX>
  <ENTRY>
    <REF HREF="mms://mediaserver.company.com/stream1.asf">
    <REF HREF="mms://mediaserver.company.com/stream2.asf">
    <REF HREF="mms://mediaserver.company.com/stream3.asf">
  </ENTRY>
</ASX>
```

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## 2. Madison's Priority Date

“A reference patent is only entitled to claim the benefit of the filing date of its provisional application if the disclosure of the provisional application provides support for the claims in the reference patent in compliance with §112 ¶1.”

*Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1381 (Fed. Cir. 2015). Madison claim 1 exemplifies that the claims are supported by the Madison provisional application:

Madison Claim 1 (Ex-1051)	Provisional Support (Ex-1052)
A method of providing access to digital content, the method comprising:	1:4-6 (“a method...for allowing clients to upload, manage, and deliver streaming media”)
receiving digital content from a client;	2:12-14 (“Once the client 102 has uploaded its streaming media content”); 15:11-18:6

storing the digital content on a server having a hostname, the digital content having a filename;	5:3-7; 9:7-10 (“The records in the Stream-Servers Table 230 correlate each file, as identified by its stream id, with the hostname of the streaming server 120 on which it resides”); 17:14-17; FIG. 2
assigning a unique identifier to the digital content;	6:1-16 (“records, each of which identifies an item of streaming content by a stream ID”); 6:21-7:1; 8:12-19; 13:5-12; 24:8-15; 25:5-9
providing the client with the link containing the unique identifier;  receiving a request for the content, the request based on activation of the link;	14:1-6 (“the playlist URL 328 is incorporated into the client’s web page as a link, and when activated by end user 104, causes the playlist/CG id to be played.”); 24:8-15; 25:5-11

determining the hostname and filename based on the unique identifier; and  creating a redirector file, the redirector file including the hostname and filename.	25:5-26:23 (“[u]sing the URL prefix, the hostname, and the stream filename, the “makeplaylist” dynamically generates a URL for each stream file...then dynamically generates a metafile”)
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The provisional application provides support for all citations to Madison relied on in this petition:

<b>Madison (Ex-1051)</b>	<b>Provisional (Ex-1052)</b>
[0003]	1:4-6
[0020]	1:18-2:2
[0021]	2:3-11
[0022]	2:12-22
[0025]	3:1-13
[0028]	4:18-5:2
[0030]	5:13-22
[0031]	6:1-10
[0032]	6:11-16
[0034]	6:21-7:18

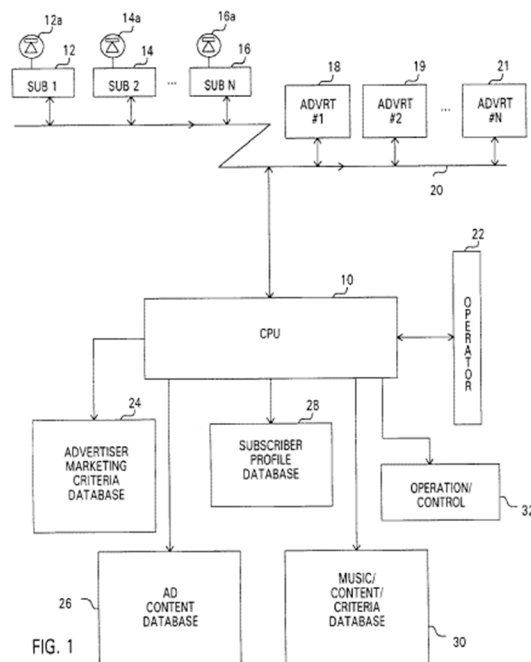
[0047]	6:11-16, 9:18-19, FIG. 2
[0070]	4:1-4, 15:3-10
[0078]	17:14-17
[0079]	18:18-18:6
[0100]	23:4-11
[0101]	23:12-24:2
[0102]	24:3-5
[0103]	24:8-21
[0104]	24:22-23
[0105]	25:2-4
[0106]	25:5-9
[0107]	25:11
[0108]	25:12-18
[0109]	25:19-26:12
[0110]	26:13-19
[0111]	26:20-23
[0112]	27:1-5
FIG. 1-5	FIG. 1-5

*See also* Ex-1003, ¶¶140-141.

### 3. Overview of Wolfe (Ex-1044)

U.S. Patent No. 5,931,901 (“Wolfe”), titled “Programmed Music On Demand From The Internet,” was filed on March 21, 1997 and issued on August 3, 1999. Ex-1044, Cover. Wolfe is prior art under 35 U.S.C. §102(a), (b), and (e).

Wolfe teaches a method of providing media content via the Internet and bundling the content with advertisements “tailored to the individual.” Ex-1044, 1:51-60. In Wolfe, a “central processing unit (CPU)... interfaces via the Internet...with a plurality of subscriber operating PCs... or other device[s] capable of receiving individualized content for audio and/or video production” and transmits media over the Internet bundled with “targeted advertising material ...paid for by advertisers.” Ex-1044, 3:48-61; *see* Figure 1 (below).



The CPU includes databases with subscriber profiles and advertiser preferences for tailoring content and advertisements to subscribers. *Id.*, 3:66-4:29. The specific media transmitted varies depending on “the information contained in the dossiers of the subscribers” and “the time of year or other conditions.” *Id.*, 3:40-46. Although Wolfe focuses on “audio/musical messages,” “the advertising copy may be video information.” *Id.*, 5:15-22.

Wolfe’s CPU also performs billing functions. Ex-1044, 4:30-32, FIG. 2. Decisional block 70 “determine[s] whether it is necessary to take care of billing matters.” *Id.*, 5:27-29. “If so, the program ...tallies accounts, listing the frequency of play and transmission of music and data stored in database 64 to subscribers.” *Id.*, 5:29-33. This information is used “for calculating (if necessary) royalty fees payable to the owners of the music,” making “an accounting ...of the total advertising air time used,” and billing advertisers accordingly. *Id.*, 5:33-44. *See also* Ex-1003, ¶¶142-146.

#### **4. Reasons to Combine**

A POSITA would have found it obvious to apply Wolfe’s bundling targeted advertisements based on subscriber information to Madison. A POSITA also would have found it obvious to apply Wolfe’s tracking information for billing and sharing revenue between entities.

A POSITA would have found it obvious to combine Wolfe's and Madison's teachings because they are in a common field and involve similar approaches. Ex-1003, ¶¶294-295. Both references describe distributing media over a network, such as the Internet. Ex-1051, [0003] ("up-load, manage, and deliver streaming media content via the Internet"); Ex-1044, Abstract ("delivering programmed music and targeted advertising messages to Internet based subscribers"). Both references also recognize the importance of including advertisements with streaming media. Ex-1044, 1:43-48 ("It is desirable to provide an Internet based system for the dissemination of valuable proprietary information free of charge, ...with advertiser sponsorship."); Ex-1051, [0032] ("ad tag... specifie[s] where an advertisement is to be inserted").

As described below for specific claim elements, the resulting combination would use known techniques to improve a similar system with expected results, and a POSITA would have been motivated to combine their teachings to make an improved system. Ex-1003, ¶296. A POSITA would have been motivated to implement targeted advertising because, as Wolfe explains, "bundling of such programmed [media] with advertisement copy tailored to the individual...underwrite[s] the cost of supplying to members of the public valuable music and other data containing information." Ex-1044, 1:55-60; Ex-1003, ¶296. *See also*, Ex-1044, 1:24-31 (recognizing deficiencies in prior art because of



difficulties “to deliver specific advertisement messages to finely selected audiences”). A POSITA would further recognize the benefits of tracking played advertisements to more accurately report effectiveness and tailor billings and revenues based on ad impressions by making “an accounting...of the total advertising air time used and...[billing] advertisers...accordingly.” Ex-1044, 5:37-44. Ex-1003, ¶296.

**5. Claim 39<sup>8</sup>**

**a. Preamble**

Madison’s “method and system for providing digital content via the Internet” teaches claim 39’s preamble. Ex-1051, [0003]; *see also* Ex-1003, ¶¶297-298.

**b. Element [39.a]**

Madison’s “end-user” is the claimed communication device. Ex-1051, [0020]-[0021] (describing “end-users” with “personal computer[s],” “web enabled cellular telephone[s] or personal digital assistant[s],” or similar “processor[s]” “coupled to the Internet”). The “playlist server” is the claimed computing device. Ex-1051, [0025] (“playlist server... dynamically generat[es] a playlist metafile”). To access streaming content, Madison teaches that end users make a request for

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<sup>8</sup> Complete claim language is provided in Grounds 1-2. For brevity, it is not repeated in Ground 3.

media by selecting a link on a client's web page. Ex-1051, [0106] ("end user... can click on the URL.")

The playlist server responds with a "redirector file," for example, an ASX file. Ex-1051, [0109]-[0110]. As discussed below for element [39.c.3], a POSITA would understand that the redirector file could contain executable instructions for the end-user's device. The end-user uses the redirector file to obtain media from another resource, the "streaming media server," as discussed for element [39.c.2]. *See also* Ex-1003, ¶¶299-301.

**c. Element [39.b]**

Madison's computing device has a "Streams2" Table with expiration dates. Ex-1051, [0031]-[0032]. The expiration dates identify whether the associated media is available (*i.e.*, expired content is unavailable). A POSITA would understand this identification to be in accordance with a program, such as the program for deletion of expired content suggested by Madison. *See* Ex-1051, [0034] (status of "deleting" applicable to files on "[r]epository server" and "media server"); Ex-1003, ¶¶302-303. This understanding is consistent with Madison's description of a script running on the computing device that deletes expired content. Ex-1051, [0047] ("For each record containing such an expiration date, the systems... delete the content."). A POSITA would understand the "Streams2 Table" to be part of Madison's playlist server (the computing device). Ex-1003,

¶¶303-304; Ex-1051, [0109] (“Streams2 Tables” is “in the CM database”), [0028] (explaining “distribut[ing] the contents of the CM Database 118 throughout the system.”).<sup>9</sup>

**d. Element [39.c]**

Madison’s playlist server generates a redirector file using a “makeplaylist” program. Ex-1051, [0108] (“the playlist server... execute[s] the “makeplaylist.asp” program and dynamically generate[s] a playlist redirector file... [and preferably] the program run on the server side”).

Madison’s redirector file is generated based on the at least one program, as described for element [39.b]. *See* Ex-1051, [0031]-[0032], [0034], [0047] (deleting expired content from Streams2).

Madison’s redirector file is also based on capabilities of the communication device. Madison teaches that the redirector file’s format must be compatible with the end user’s media player. Ex-1051, [0025] (The playlist server “dynamically generat[es] a playlist metafile” (*e.g.*, ASX, RAM, SMIL, and RPM files) “to be

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<sup>9</sup> To the extent that Patent Owner argues that the playlist server and CM database are not both part of one “computing device,” a POSITA would have found it obvious to include their respective functions on one device, at least to minimize the number of devices required for testing the Madison system. Ex-1003, ¶303.

provided to the end-user's windows media player"). Playlist format is specified in the CM Database. Ex-1051, [0070].

Madison's redirector file is based on user characteristics. Madison teaches including an "ad tag" in the "Streams2" table, which "specifie[s] where an advertisement is to be inserted." Ex-1051, [0032]. A POSITA would understand that the redirector file could contain references to advertisements. Ex-1003, ¶¶306.

If Madison does not teach that the ad tag and specified advertisement is based on a user characteristic, a POSITA would have been motivated to combine Wolfe's targeted advertising with Madison's advertisement insertion as discussed in Section V.C.4. *See also* Ex-1003, ¶¶309. Wolfe teaches providing content bundled with advertisements "tailored to the individual." Ex-1044, 1:51-60. Wolfe teaches a "subscriber profile database" containing "profiles of the individual subscribers..., specifying for each subscriber criteria" including "age, demographic data, education, sex, ethnic background, musical selections previously or simultaneously made by the subscriber, purchasing habits and the like" for targeting advertisements to the user. *Id.*, 4:13-18. An advertiser database "also specifies for each particular advertiser the type, i.e. the profile of the subscribers/listeners which the particular advertiser would like to target." 4:50-55. Accordingly, Wolfe teaches dynamically selecting advertisements based on characteristics associated with a user, and in combination with Madison, renders

obvious generating a redirector file based on those characteristics. *See* Ex-1003, ¶¶305-311.

(1) Element [39.c.1]

Madison's redirector file includes a list of URLs containing stream filenames that identify the files. Ex-1051, [0109] ("filename.asf" in exemplary URL). The filenames identify portions of the requested media ("stream1," "stream2," and "stream3"). Ex-1051, [0110]. *See also* Ex-1003, ¶¶312-313.

(2) Element [39.c.2]

Madison's redirector file's URLs contain "hostname[s]" identifying media servers. Ex-1051, [0109] ("mediaserver.company.com" in exemplary URL). The media servers are a resource other than the playlist server. Ex-1051, [0102] ("content file... is placed on the streaming media server"). The media servers facilitate streaming by providing media to the end-user. Ex-1051, [0111] ("end user's media player pulls each identified stream file from the media server 120 identified in the redirector file"). *See also* Ex-1003, ¶¶314-315.

(3) Element [39.c.3]

Madison's playlist server dynamically generates the redirector file in formats including ASX. Ex-1051, [0025] (also RAM, SMIL, RPM). A POSITA would understand that ASX files include instructions for obtaining media. "All About ASX Files" exemplifies a POSITA's knowledge. Ex-1003, ¶316. It explains that, when a user's device receives an ASX file, it launches Windows Media Player,

which “looks in the ASX for instructions on where to get the ASF file, and then starts the stream playing.” Ex-1017, 1. ASX playlists also include instructions “to schedule content to play in succession, or to insert advertising or special interest clips into a stream after a specific period of time or at a specific point.” *Id.*, 4. A POSITA would have understood ASX files used by Madison to include other information like instructions to play files in a particular order or dynamically inserting other files such as advertisements. Ex-1003, ¶316.

Madison further teaches including other instructions in the “Streams2” table, which is used when generating redirector files. Ex-1051, [0108]-[0109] (“the “makeplaylist” program... makes a call to the Streams2 Tables.”). Entries in the “Streams2” table contains entries concern when to play advertisements (“ad tag”), “start time,” and “bitrate,” among others. Ex-1051, FIG. 2b. A POSITA would have understood to use these entries to place instructions into the redirector. Ex-1003, ¶317; *see also* ¶318.

**e. Element [39.d]**

After Madison’s playlist server generates the redirector file including the information identified in element [39.c], it is sent to the end user via the Internet. Ex-1051, [0110] (“the ‘makeplaylist’ program... generates a redirector file to be passed to the... end user’s computer.”), FIG. 1. *See also* Ex-1003, ¶¶ 319-320.

**f. Element [39.e]**

Madison teaches inserting advertisements into the redirector file. Ex-1051, [0032] (“ad tag... specifie[s] where an advertisement is to be inserted”). Wolfe has a program that “tallies accounts, listing the frequency of play and transmission of music ... to subscribers” for “calculating (if necessary) royalty fees payable to the owners of the music” and “preparing billing data for advertisers.” Ex-1044, 5:26-44. A POSITA would have been motivated to combine Wolfe’s account tallying and royalty calculation with Madison’s system. Ex-1003, ¶321. Because Wolfe aims to provide media to subscribers without charge by “bundling” media with advertisements (Ex-1044, 1:51-60), the “royalty fees” necessarily come from advertising revenue (Ex-1044, 5:34-36). Thus, a POSITA would understand that a percentage of this advertising revenue is shared between the music owners and the system operators. *See* Ex-1003, ¶¶322-323.

**g. Element [39.f]**

In Wolfe, decisional block 70 “determine[s] whether it is necessary to take care of billing matters.” Ex-1044, 4:30-32, 5:27-29, FIG. 2. “If so, the program ...tallies accounts, listing the frequency of play and transmission of music and data... to subscribers,” and “prepar[es] billing data for advertisers.” *Id.*, 5:26-44. Accordingly, Wolfe teaches generating the claimed settlement record, as construed in Section IV, based on the revenue sharing rule. Ex-1003, ¶¶324-325.

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Madison combined with Wolfe renders obvious claim 39. *See also* Ex-1003, ¶326.

**6. Claim 45**

**a. Preamble**

*See* Section V.C.5.a (element [39.pre]); Ex-1003, ¶¶327-328.

**b. Element [45.a]**

*See* Section V.C.5.b (element [39.a]); Ex-1003, ¶¶329-330.

**c. Element [45.b]**

This element is substantively similar to element [39.e], but adds that the “requested media” is “associated with” the revenue sharing rule. Wolfe’s requested media is associated with the sharing rule because “royalty fees payable to the owners of the music” are associated with the music. Ex-1044, 5:26-44. *See also* Ex-1003, ¶¶331-333.

**d. Element [45.c]**

*See* Section V.C.5.c (element [39.b]); Ex-1003, ¶¶334-335.

**e. Element [45.d]**

Madison teaches that the content owner may provide information about its content to a “Content Management (CM) Database” that “includes... tables.” Ex-1051, [0028]. Among these tables is “the CM Assets Table,” which includes records about content like “the platform to which the content relates” and “the



expiration date (if any) of the content,” among others. Ex-1051, [0031]. These are rules for providing streaming—for example, the “expiration date” dictates that expired content will not be streamed. Ex-1003, ¶336.

Wolfe similarly teaches rules for providing streaming. Wolfe’s subscriber profiles specify characteristics like “age, demographic data, education, sex, ethnic background, and others.” Ex-1044, 4:12-17. Advertisers specify rules governing the distribution of content based on these characteristics. For example, Wolfe teaches the advertisers/marketing criteria database “stores the advertising preferences of the advertisers... e.g., the type of subscribers that these advertisers would like to reach, their geographic locations,” etc. *Id.*, 4:1-6. *See also id.*, 4:50-55. Although Wolfe focuses on advertising content, it would have been obvious to a POSITA to apply the same rules to Wolfe’s media content and, by extension, Madison’s video content. Ex-1003, ¶¶337-338; *see also* Ex-1044, 3:40-47 (“musical material and advertisements transmitted may vary as a function of the information contained in the [subscriber] dossiers.”).

**f. Element [45.e]**

As discussed for element [45.d], Madison, or alternatively Madison combined with Wolfe, teaches processing the rules to determine which content to provide. In Madison, the processing determines which URLs to include in the redirector. The inclusion of these URLs in the redirector file would cause that

media to be streamed to the end user as discussed in claim 39. *See also* Ex-1003, ¶¶339-340.

**g. Element [45.f]**

This element is substantively similar to element [39.c], except for including a “rule.” As discussed for elements [45.d] and [45.e], Madison combined with Wolfe renders obvious using a rule to select media for inclusion in the redirector file. Thus, the redirector is “generated” based on the rule. *See also* Ex-1003, ¶¶341-343.

(1) Element [45.f.1]

*See* Section V.C.5.d.1 (element [39.c.1]); Ex-1003, ¶¶344-345.

(2) Element [45.f.2]

*See* Section V.C.5.d.2 (element [39.c.2]); Ex-1003, ¶¶346-347.

(3) Element [45.f.3]

*See* Section V.C.5.d.3 (element [39.c.3]); Ex-1003, ¶¶348-349.

**h. Element [45.g]**

This element is substantively similar to element [39.d], but specifies that the list, identification, and instructions are transmitted from the computing device, whereas element [39.d] specifies that they are transmitted to the communication device. Madison’s teachings discussed for [39.d] also teach this element because the playlist server sends the redirector file to the end user. *See also* Ex-1003, ¶¶350-351.

**i. Element [45.h]**

While worded differently from element [39.f], the teachings discussed for that element also teach element [45.h]. *See also* Ex-1003, ¶¶352-355.

\*\*\*

Madison combined with Wolfe renders obvious claim 45. *See also* Ex-1003, ¶356.

**7. Claim 52**

Madison teaches a storage rule identifying where the portion of the requested media will be located for storage. Madison's "system places each client's content on the streaming media server 120 that has the most free disk or storage space." Ex-1051, [0100]; Ex-1003, ¶357. Madison also teaches a viewing rule identifying acceptable viewers. Madison teaches that the client (the entity uploading media) can indicate "whether or not the [uploaded] file is secure" and require "an alphanumeric security string" for accessing secure files. Ex-1051, [0078]-[0079]; Ex-1003, ¶¶358-359.

**8. Claim 68**

**a. Preamble**

*See* Section V.C.5.a (element [39.pre]); Ex-1003, ¶¶360-361.

**b. Element [68.a]**

*See* Section V.C.5.b (element [39.a]); Ex-1003, ¶¶362-363.

**c. Element [68.b]**

*See* Section V.C.6.c (element [45.b]); Ex-1003, ¶¶364-365.

**d. Element [68.c]**

*See* Section V.C.5.c (element [39.b]); Ex-1003, ¶¶366-367.

**e. Element [68.d]**

*See* Section V.C.6.e (element [45.d]); Ex-1003, ¶¶368-369.

**f. Element [68.e]**

*See* Section V.C.6.f (element [45.e]); Ex-1003, ¶¶370-371.

**g. Element [68.f]**

*See* Section V.C.5.d (element [39.c]); Ex-1003, ¶¶372-373.

(1) Element [68.f.1]

*See* Section V.C.5.d.1 (element [39.c.1]); Ex-1003, ¶¶374-375.

(2) Element [68.f.2]

*See* Section V.C.5.d.2 (element [39.c.2]); Ex-1003, ¶¶376-377.

(3) Element [68.f.3]

*See* Section V.C.5.d.3 (element [39.c.3]); Ex-1003, ¶¶378-379.

**h. Element [68.g]**

*See* Section V.C.6.h (element [45.g]); Ex-1003, ¶¶380-381.

**i. Element [68.h]**

While worded differently from element [39.f], the teachings discussed for that element also teach element [68.h]. *See also* Ex-1003, ¶¶382-385.

\*\*\*

Madison combined with Wolfe renders obvious claim 68. *See also* Ex-1003, ¶386.

**9. Claim 98**

**a. Preamble**

Madison’s “method and system for providing digital content via the Internet” and specifically its “method and system for allowing clients to up-load, manage, and deliver streaming media content via the Internet” teaches the preamble. Ex-1051, [0003]. *See also* Ex-1003, ¶¶387-388.

**b. Element [98.a]**

Element [98.a] is substantively similar to element [39.a], except that element [98.a] specifies that the requested media is “streamed media.” Madison teaches streaming. *See* Ex-1051, [0003]; Ex-1003, ¶¶389-390.

**c. Element [98.b]**

*See* Section V.C.6.c (element [45.b]); Ex-1003, ¶¶391-392.

**d. Element [98.c]**

Madison combined with Wolfe meets element [98.c] for the reasons discussed for element [39.c]. Madison additionally teaches transmitting the redirector file (the claimed communication) to the end-user device from the playlist server over the internet in response to the end-user’s request. Ex-1051, [0003], [0020]-[0021], [0106]-[0107], [0109]-[0110]. *See also* Ex-1003, ¶¶393-394.

(1) Element [98.c.1]

Element [98.c.1] is substantively similar to element [39.c.1], except that element [98.c.1] requires “at least one identification” of media, whereas element [39.c.1] requires a list. Madison’s redirector file includes “at least one identification.” *See* Ex-1051, [0109]. *See also* Ex-1003, ¶¶395-396.

(2) Element [98.c.2]

*See* Section V.C.5.d.2 (element [39.c.2]); Ex-1003, ¶¶397-398.

(3) Element [98.c.3]

*See* Section V.C.5.d.3 (element [39.c.3]); Ex-1003, ¶¶399-400.

**e. Element [98.d]**

While worded differently from element [39.f], the teachings discussed for that element also teach element [98.d]. *See also* Ex-1003, ¶¶401-404.

\*\*\*

Madison combined with Wolfe renders obvious claim 98. *See also* Ex-1003, ¶405.

**10. Claim 99**

Claim 99 is substantively identical to element [98.c], but additionally requires “user identification” as the claimed “characteristic.” As discussed for element [39.c], Wolfe teaches tailoring advertisements to individual subscribers using “dossiers” and a “subscriber profile database.” Ex-1044, 1:51-60, 2:12-17, 4:50-55, 4:13-18. Wolfe’s “[c]ontent is encoded to... identify the subscriber to

whom the content is to be delivered.” Ex-1044, 7:28-30. *See also* Ex-1003, ¶¶406-407.

## **11. Claim 100**

Madison teaches generating the redirector file based on the geographic location of the user. Madison’s redirector file is generated using the CM Database’s “Stream Servers Table,” which “includes the location or (DNS) hostname of the particular media server 120 containing the stream file associated with a particular stream identifier.” Ex-1051, [0109]. The playlist server is identified, in part, based on its geographic relationship to the end-user because “each client account is associated with a site located in...the geography” where likely end-users “are located.” Ex-1051, [0030].

To the extent Madison does not teach basing the choice of media server on geography, it would have been obvious to a POSITA, based on Madison, that each stream is associated with a site ID and because of the benefits, recognized by Madison, of serving media from a server located closer to the end user. Ex-1051, [0030]; Ex-1003, ¶409. For example, if the “makeplaylist” program located two media servers with requested content, a POSITA would have designed the program to select the media server closer to the user, other factors being equal. Ex-1003, ¶409.

Wolfe also teaches tailoring advertisements to individual subscribers using subscriber profiles, which detail “age, demographic data, education, sex, ethnic background, musical selections previously or simultaneously made by the subscriber, purchasing habits and the like” to select advertisements targeted to the user. Ex-1044, 4:13-18; *see also* claim 99; elements [39.c] and [98.c]; Ex-1044, 1:51-60, 2:12-17, 4:50-55, 7:28-30. Wolfe’s teachings, combined with Madison, also render this claim obvious. Ex-1003, ¶¶408-411.

## **12. Claim 101**

Madison’s redirector file includes URLs, which are unique identifiers used by the end user device to receive streaming media. *See* element [39.c.1]; Ex-1051, [0110], Ex-1003, ¶¶412-413.

## **13. Claim 103**

As discussed for element [39.c], Madison teaches generating and transmitting the redirector file based on the end user’s media player. *See* Ex-1051, [0025], [0111], [0070]. Madison also teaches generating and transmitting the redirector file based on a protocol. Ex-1051, [0109]-[0110] (“mms://”). *See also* Ex-1003, ¶¶414-415.

## **14. Claim 105**

Madison teaches generating the redirector file based on rules specifying a bit rate, a sequence, and a format. Madison’s “Streams2” table is used to generate and transmit the redirector file. *See* elements [39.b], [39.c]. For each entry, it lists



“stream type,” “bite rate of the content,” and “stream format.” Ex-1051, [0032]; *see also* [0070] (“playlist format” like “RAM for RealMedia” and “ASX for Windows Media” are specified and edited in the CM Database). The playlist server also determines the “sort order” (sequence) of the files referenced by the redirector file using the CM database’s CG Streams table. Ex-1051, [0109]. *See also* Ex-1003, ¶416.

If this claim requires the communication be based on rules that specify each of a frame rate, bit rate, sequence, and format, it would have been obvious to a POSITA to include a frame rate as a field in addition to the other fields explicitly listed in Madison’s Streams2 Table. Ex-1003, ¶417. Like other fields, frame rate is an intrinsic media quality, and including it in the Streams2 Table would be simple for a POSITA. *See also* Ex-1003, ¶¶416-418.

### **15. Claim 111**

As discussed for element [39.c.3], Madison teaches using ASX files as redirector files, and a POSITA would have found it obvious to include instructions, including related to format, sequence, and advertisement insertion. *See* Ex-1051, [0025], [0108]-[0109], FIG. 2b; Ex-1003, ¶¶419-420.

### **16. Claim 115**

Madison teaches streaming video. Ex-1051, [0031] (“content is audio and or video”); Ex-1003, ¶¶421-422.

**17. Claim 117**

Madison’s redirector file identifies multiple portions of requested media.  
*See* Ex-1051, [0110]; Ex-1003, ¶¶423-424.

**VI. THE BOARD’S DISCRETION**

The Board considers the factors recited in *Apple Inc. v. Fintiv, Inc.*, IPR 2020-00019, Paper 11, 5-6 (PTAB) (precedential) when considering whether to exercise discretion under 35 U.S.C. §314(a). These factors favor institution.

Factor 3 weighs heavily in favor of institution because the court has invested limited resources in this case. Hulu filed this petition about six months after Patent Owner commenced litigation in *SITO Mobile R&D IPI, LLC and SITO Mobile, Ltd. v. Hulu, LLC*, Case No. 6:20-cv-00472-ADA, pending in the District Court for the Western District of Texas (“the district court case”). The district court has not been presented with any invalidity issues, and no *Markman* hearing has been held. Ex-1027. A *Markman* hearing is scheduled for March 5, 2021, and trial will begin March 7, 2022 at earliest. Ex-1028. Fact discovery will not begin until after the *Markman* hearing. *See* Ex-1027, 2. Thus, the district court will not undertake claim construction until just before the Board’s institution decision here, and the parties will not have invested significant resources in fact discovery. Moreover, to the extent the parties and the district court have invested resources and time in that case, it does not have any relationship to issues this IPR will decide. *See Kavo*

*Dental Tech., LLC v. Osseso Imaging LLC*, IPR2020-00671, Paper 10, 22–23

(PTAB July 1, 2020) (Institution Decision) (considering whether the investment by the district court related to the issues before the Board).

Hulu has filed a motion to transfer the district court case pursuant to 28 U.S.C. §1404(a), and has filed a motion to stay the district court case pending a decision on that motion, or, alternatively, to align the district court case with a later-filed case filed by the Patent Owner and asserting five common patents approximately four months after the action involving Petitioner was filed. Case No. 6:20-cv-00472-ADA, Dkt. Nos. 28, 30.

Factor 4 also weighs heavily in favor of institution, as Hulu stipulates, in order to eliminate any potential inefficiencies or overlap, that if the PTAB institutes on this Petition, Hulu will not pursue invalidity against the asserted claims in the District Court (39, 45, 52, 68, 98-101, 103, 105, 111, 115, and 117) in Case No. 6:20-cv-00472-ADA based on Eyal or Madison, the primary references here. Ex-1048. Such stipulations weigh against denying institution. *See, e.g., Apple v. SEVEN*, IPR2020-00180, Paper 12, 15; *Nanocollect Biomedical v. Cytonome*, Paper 19, 23; *HP v. Neodron*, IPR2020-00459, Paper 17, 41-42; *VMWare v. Intellectual Ventures I*, IPR2020-00470, Paper 13, 20. Hulu's stipulation that it will not pursue **any** grounds based on the primary references is broader than the stipulations found persuasive in the cases above and should weigh

more heavily in favor of institution. *See, HP v. Neodron*, IPR2020-00459, Paper 17, 41-42 (broader stipulation would have further strengthened support for institution). Moreover, Hulu is challenging more claims here (16) than are asserted in the district court (13). Ex-1029, Ex-1030. *See Resideo Techs., Inc. v. Innovation Sciences, LLC*, IPR2019-01306, Paper 19, 11-13 (PTAB January 27, 2020) (instituting IPR where “the district court will not resolve the patentability of most of the claims challenged in the petition”).

None of the other *Fintiv* factors weigh against institution. Factor 2 is neutral, as a final written decision will issue close to trial, and the Court will set the trial date at the *Markman* hearing. Ex-1028; *VMWare, Inc. v. Intellectual Ventures II LLC*, IPR2020-00859, Paper 13, 13–14 (PTAB Nov. 5, 2020) (Granting Institution) (finding factor 2 neutral because the district court indicated the early trial date is nominal and the actual trial date will be set at the conclusion of the *Markman* hearing, such that trial could happen “before or after” a final written decision). If the default trial date is not adopted, factor 2 would favor institution.

Factor 1 is neutral given that courts commonly stay cases upon IPR institution. *See VMWare, Inc. v. Intellectual Ventures II LLC*, IPR2020-00859, Paper 13, 12 (PTAB Nov. 5, 2020) (finding Factor 1 neutral, even though Petitioner had not previously sought a stay, and despite Patent Owner’s argument that the district court judge was “unlikely” to issue a stay pending IPR

institution). Although the district court case, filed about six months ago, has not been stayed, that should not weigh against institution. Hulu has moved to stay the district court proceedings pending a decision on Hulu’s motion to transfer. Case No. 6:20-cv-00472-ADA, Dkt. No. 30.

Moreover, Hulu filed this Petition shortly after being sued. The PTAB has held that “as part of our holistic analysis, we also consider the speed in which Petitioner acted.” *HP v. Neodron*, IPR2020-00459, Paper 17, 40. In *Neodron*, the PTAB instituted partially because “Petitioner acted diligently in filing the Petition...more than five months in advance of the statutory bar date.” *Id.* Hulu filed this Petition just as early. Moreover, this Hulu’s **seventh** IPR petition related to SITO’s asserted patents—Hulu’s expeditious filings weigh against denial. *See Apple Inc. v. Seven Networks, LLC*, IPR2020-00506, Paper 11, 16 (PTAB Sept. 1, 2020). Denying institution under such circumstances would effectively nullify Hulu’s ability to seek IPR, as Hulu could not begin preparing its petition until after it was sued, and Hulu diligently pursued its petition thereafter.

## **VII. GROUNDS FOR STANDING, MANDATORY NOTICES, AND FEE AUTHORIZATION**

### **A. Petitioner Is A Real Party In Interest Sued For And Charged With Infringement**

Pursuant to 37 C.F.R. § 42.8(b), Petitioner, Hulu, LLC, submits that it is a real party-in-interest who has been sued for alleged infringement of the ‘887 Patent

U.S. Patent No. 8,825,887  
Petition for *Inter Partes* Review  
in *SITO Mobile R&D IPI, LLC and SITO Mobile, Ltd. v. Hulu, LLC*, Case No.

6:20-cv-00472-ADA, pending in the U.S. District Court for the Western District of Texas. Neither Petitioner, nor any privy of Petitioner, is estopped from challenging the claims on the grounds identified in this Petition.

The following entities own ten percent or more of the stock of Petitioner Hulu, LLC: The Walt Disney Company and Comcast Corporation. Neither of the parties listed above as part-owners of Hulu controlled or funded this IPR, nor did they contribute to the preparation of this IPR.

**B. Mandatory Notices (37 C.F.R. § 42.8)**

**Real party-in-interest:** Hulu, LLC

**Related matters:** *SITO Mobile R&D IP, LLC and SITO Mobile, Ltd. v. Hulu, LLC*, Case No. 6:20-cv-00472-ADA.

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**Service information:** Service of all documents may be made to the lead and backup counsel at O'Melveny & Myers LLP, 610 Newport Center Dr., 17th Floor, Newport Beach, CA 92694, with courtesy copies to the email addresses identified above.

**C. Fee Authorization**

The Office is authorized to charge an amount in the sum of \$ 41,500 to Deposit Account No. 50-0639 for the fee set forth in 37 CFR § 42.15(b) for this Petition, and any additional fees that might be due in connection with this Petition.

## **VIII. CONCLUSION**

Hulu respectfully requests that the Board institute this IPR.

Respectfully Submitted,

/s/ Cameron W. Westin

Cameron W. Westin (Reg. No. 66,188)



**Certification of Word Count**

Pursuant to 37 C.F.R. § 42.24(d), Petitioner certifies that this petition includes 13,797 words, as measured by Microsoft Word, exclusive of the table of contents, mandatory notices under § 42.8, certificates of service, and word count, and exhibits.

**CERTIFICATE OF SERVICE**

The undersigned certifies pursuant to 37 C.F.R. § 42.6(e) and § 42.105 that on December 10, 2020, a true and correct copy of **PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,825,887** was served via express mail on the Patent Owner at the below correspondence address of record:

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