

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HULU, LLC
Petitioner

v.

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

Case IPR: Unassigned

U.S. Patent 8,825,887

DECLARATION OF DR. HENRY HOUH

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

I, Henry Houh, hereby declare as follows.

I. Introduction

1. I have been retained as an expert witness on behalf of Hulu, LLC (“Petitioner”) for the above-captioned *inter partes* review (IPR). I understand that Hulu challenges the validity of claims 39-40, 45, 47, 52, 68, 98-101, 103, 105, 111, and 115-117 (“Challenged Claims”) of U.S. Patent No. 8,825,887 (“the ’887 Patent”).

2. I am over the age of eighteen (18) and otherwise competent to make this declaration. I am being compensated for my time in connection with this IPR at my standard consulting rate. I understand that the petition for *inter partes* review involves the ’887 Patent (Ex-1001), which resulted from U.S. Patent Application No. 13/841,015 (the ’015 Application), filed on March 15, 2013, naming Charles A. Jennings and Donald H. Bate as the inventors.

3. The application is a continuation of U.S. patent application Ser. No. 11/680,407, filed Feb. 28, 2007, entitled “System and Method for Routing Media,” which is a divisional of U.S. patent application Ser. No. 10/051,406, filed Jan. 18, 2002, (now U.S. Pat. No. 7,191,244, issued Mar. 13, 2007) and entitled “System and Method for Routing Media,” which is a continuation-in-part of U.S. patent application Ser. No. 09/838,993, filed Apr. 20, 2001, (now U.S. Pat. No. 7,054,949, issued May 30, 2006) and entitled “System and Method for Streaming

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

Media,” which is a continuation-in-part of U.S. patent application Ser. No. 09/766,519, filed Jan. 19, 2001. *See* Ex-1001 at Cover. U.S. patent application Ser. No. 10/051,406, filed Jan. 18, 2002, claims priority to U.S. Patent Application Ser. No. 60/263,044, filed Jan. 19, 2001, entitled “Media Routing Algorithm.” *See* Ex-1001 at Cover. I understand that the ’887 Patent also claims priority to provisional application No. 60/263,044, filed on January 19, 2001. *See* Ex-1001 at Cover. The ’887 Patent issued on Sept. 2, 2014, from the ’015 Application. I further understand that, according to USPTO records, the ’887 patent is currently assigned to SITO Mobile R&D IP, LLC and SITO Mobile Ltd. (“Patent Owner”).

4. I understand that SITO has claimed priority to March 31, 2000, in its Preliminary Infringement Contentions. *See* Ex-1030.

5. In preparing this Declaration, I have reviewed the ’887 Patent and considered each of the documents cited herein, in light of general knowledge in the art. In formulating my opinions, I have relied upon my experience in the relevant art and have also considered the viewpoint of a person of ordinary skill in the art.

6. I am familiar with the technology at issue as of the March 31, 2000 earliest claimed priority date of the ’887 patent. I am also familiar with a person of ordinary skill in the art with respect to the technology at issue as of March 31, 2000 earliest claimed priority date of the ’887 patent.

II. My Background and Qualifications

7. I am currently employed by Houh Consulting Inc. as an independent technical consultant. I also work as the co-founder of Einstein's Workshop, a company that provides supplemental science, technology, engineering, and mathematics ("STEM") education to children of all ages. I also co-founded and serve on the board of BlocksCAD, Inc., which provides educational computer-aided design software used around the world.

8. My professional career has spanned more than 25 years. As set forth in my curriculum vitae, a copy of which is submitted as Ex-1004, during these years I have gained extensive experience in web sites, communications systems, networking, distributed systems, protocols and streaming audio/video communications.

9. I have multiple undergraduate and graduate degrees from the Massachusetts Institute of Technology (MIT). I have a Bachelor of Science Degree in Electrical Engineering and Computer Science from MIT which I received in June 1989. I also have a Bachelor of Science Degree in Physics from MIT which I received in February 1990. I have a Master of Science Degree in Electrical Engineering and Computer Science from MIT which I received in February 1991. I have a PhD in Electrical Engineering and Computer Science from MIT which I received in February 1998. My thesis was directed to

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

“Designing Networks for Tomorrow's Traffic,” and was supervised by Professor David Tennenhouse and Professor John Guttag.

10. I first worked in the area of communications in 1987 when I worked at AT&T Bell Laboratories as part of a five-year dual degree program at MIT. At Bell Labs, I first worked in a group supporting core telephony switching functions, then later I joined the Optical Computing group. In graduate school, I joined the Advanced Network Architecture (ANA) group at the Laboratory for Computer Science (LCS) at MIT, then headed by Prof. Tennenhouse and senior research scientist David Clark. Dr. Clark is generally considered to be one of the fathers of the Internet Protocol, having acted as chief protocol architect for the development of the Internet. My research and work experience in distributed systems, networking, and network architecture dates back to around 1991 when I joined ANA.

11. Later, when Prof. Tennenhouse formed his own research group, the Telemedia Network Systems (TNS) group, I joined TNS. The TNS group built a high-speed gigabit network and applications which ran over the network, such as remote video capture, processing, and display on computer terminals. I designed the core networking hardware and software, including the high-speed data links and the device drivers for the network interface cards.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

12. TNS's research activities focused on high speed networking and the types of applications that require increased network bandwidth and computing power. One of the applications I investigated was live streaming video, and real-time processing of such video. My work was focused around the transport, switching, and routing of data (including video and audio streams), and the integration of TNS's network into the computing environment, including the protocols, IP/ATM integration, operating system software and device drivers. TNS created a computing environment where it was possible to stream audio/video live, and also created software processing modules to further process video to perform advanced functions such as green screening, scene change detection, motion detection, compression, video blending and video overlay, among the many features – all in real-time while displaying the processed video live. While the Internet at the time did not have the capability for such applications to be widely deployed, my group at TNS researched what would be possible when the required network and computing power became available. As discussed above, my Ph.D. thesis work focused on studying the routing resources required to route streams of video through the network, proposing several alternative labeling strategies to speed up network routing, especially for popular applications such as web traffic.

13. During the early part of my graduate studies, a time when there were perhaps a hundred or so web servers in existence, I set up a web server on one of

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

our lab computers, and created content rich web pages for my research group and my research activities. Eventually, I, together with others I was working with, added live video demonstrations to TNS's web site. TNS's web site was one of the first several hundred web servers to exist, and the first to offer live video demonstrations initiated from the web site to a user's remote computer. I helped to build the web pages that initiated these video sessions via a web interface. I started and maintained the "Commercial Sites Index," the first listing of all the companies on the web. I later sold this list to OpenMarket, then a leader in web servers and eCommerce servers.

14. Vice-President Al Gore visited our group in 1996 and received a demonstration of – and remotely drove – a radio controlled toy car with a wireless video camera mounted on it; the video was encoded by TNS-designed hardware, streamed over the TNS-designed network and displayed using TNS-designed software.

15. I authored or co-authored at least twelve papers and conference presentations on my group's research at TNS. I also co-edited TNS's final report on its gigabit networking research effort. Some of my papers about web site development were presented at the first World-Wide Web conference held in 1994 at CERN in Geneva, Switzerland. CERN is the birthplace of the Web, and the conference was chaired by Tim Berners-Lee, the inventor of the World-Wide Web.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

When Tim Berners-Lee formed the World Wide Web Consortium at the MIT LCS in order to manage the progression of web protocols and standards, I assisted him in obtaining the consortium's domain names and setting up the consortium's web server.

16. I have extensive experience in creating web pages and commercially setting up websites during the 1993-1997 time frame, and have continued this development since then. As part of this experience, I regularly programmed using HTML and Perl programming languages. I also have experience with CGI scripts and Perl scripts as used for dynamic web pages.

17. From 1997 to 1999, I was a Senior Scientist and Engineer at NBX Corporation, a start-up that made business telephone systems for streaming packetized audio over data networks instead of using traditional telephone lines. NBX was later acquired by 3Com Corporation, and the phone system I worked on at NBX was widely used by numerous businesses. As part of my work at NBX, I designed the core audio reconstruction algorithms for the telephones, as well as the packet transmission algorithms. I also designed and validated the core packet transport protocol used by the phone system.

18. The NBX system also supported TAPI, the Telephony Application Programming Interface, thus allowing other computer programs to integrate with our system telephony features. The NBX system was among the first to support a

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

web-browser interface to control features of the telephone by using a remote application that issued remote controls to the central controller. The web server in the NBX system accessed a back-end database which stored all the data related to the configuration and operation of the NBX system. Accessing the system controller's web server produced a representation of the telephone and allowed users to set speed dials and other features of the user's physical telephone such as a call forwarding number. The user could also access and initiate various telephone functions through the interface, such as initiating a conference call or initiating call forwarding.

19. Two of the company founders and I obtained U.S. Patent No. 6,967,963, entitled "Telecommunication method for ensuring on-time delivery of packets containing time-sensitive data," as a result of part of the work I did at NBX.

20. From 2003-2004, I also was the architect for a next-generation web testing platform developed by Empirix, known as e-Test Suite. e-Test Suite is now owned by Oracle Corporation. e-Test provided functional and load testing for web sites. e-Test emulated a user's interaction with a web site and provided web developers with a method of creating various scripts and providing both functional testing (i.e., did the web site provide the correct response) and load testing (i.e., could the web site handle 5000 users simultaneously). As part of this project, I co-

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

wrote a javascript interpreter for e-Test so that it could understand the javascript code present on advanced web sites.

21. I worked at BBN Technologies from 2004 to 2009. BBN Technologies, formerly known as Bolt, Beranek and Newman, was a pioneer of the Internet and a long-established leader in speech recognition and natural language processing. BBN received the first contract to build components of a packet switched network as part of the ARPANET, a U.S. Department of Defense effort funded through the Advanced Projects Research Agency (ARPA). While this effort preceded my time at BBN by many years, BBN continued to maintain a strong presence in network research and development, including in wireless networking, device discovery, and protocols for a “body area network.”

22. In 2006, as part of my role at BBN Technologies, I helped found PodZinger Inc., now known as RAMP Inc. PodZinger utilized BBN’s speech recognition algorithms to search through the spoken words inside audio and video. After managing the creation of the initial prototype system, PodZinger built out a full web-based streaming audio and video search solution when I was the Vice President of Operations and Technology there. The web site had a full load-balanced back end that provided search and indexing solutions for our hosted multimedia (audio and video) content.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

23. I also worked on commercializing a service offered by BBN to monitor call centers and provide analytical data on each call. The business became known as AVOKE Analytics and provided call center analytics for large organizations such as Dell and the Centers for Medicare and Medicaid Services (CMMS). For a time, during the rollout of the Affordable Care Act (though I was no longer working at BBN), AVOKE Analytics gathered data and provided call-by-call analytics for every call made to the CMMS main call center.

24. I have web advertising experience as well, including starting a company in 1994 that was funded, in part, through web advertisements. Later in 2008-2009, as the CTO of a venture-funded social network start-up company, I also evaluated different ad network tools.

25. I am familiar with patents and have numerous provisional and non-provisional patent applications on which I am an inventor, including 4 provisional patent applications, and 20 non-provisional applications. These patent applications deal with various areas of technology including, but not limited to: utilizing network processors, network and packet delivery systems, tagging media content, dynamic presentation of advertising and other content using enhanced metadata, methods for web site testing, and organizing and managing files that are transmitted over a network.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

26. In formulating my opinions, I have relied upon my training, knowledge, and experience in the relevant art. A copy of my current curriculum vitae is provided as Ex-1004, and it provides a comprehensive description of my academic, employment, research, and professional history.

27. With my extensive experience in the field of web based system, streaming media, distribute systems, and network architectures, I am qualified to provide an opinion as to what a person of ordinary skill in the art would have understood, known, or concluded as of March 2000. I have been asked to opine on the state of the art as of the March 2000, which I understand is the earliest claimed priority date of the '887 patent. My opinion would not change if this date was as late as January 18, 2002.

III. List of Documents Considered in Formulating My Opinion

28. In formulating my opinions, I have considered the Exhibits to Hulu's Petition for *Inter Partes* Review of the '887 Patent and all documents cited in this declaration.

IV. Relevant Legal Standards

29. I am not an attorney. For the purposes of this declaration, I have been informed about certain aspects of the law that are relevant to my opinions. My understanding of the law was provided to me by Petitioner's attorneys. Counsel has provided me with various legal standards that I understand apply to my analysis.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

A. Prior Art and Anticipation

30. I understand that the petitioner for *inter partes* review may request the cancelation of one or more claims of a patent based on grounds available under 35 U.S.C. § 102 and 35 U.S.C. § 103 using prior art that consists of patents and printed publications.

31. I understand that § 102 specifies when a challenged claim is invalid for lacking novelty over the prior art, and that this concept is also known as “anticipation.” I understand that a prior art reference anticipates a challenged claim, and thus renders it invalid by anticipation, if all elements of the challenged claim are disclosed in the prior art reference. I understand the disclosure in the prior art reference can be either explicit or inherent, meaning it is necessarily present or implied. I understand that the prior art reference does not have to use the same words as the challenged claim, but all of the requirements of the claim must be disclosed so that a person of ordinary skill in the art could make and use the claimed subject-matter.

32. I understand that § 102 also defines what is available for use as a prior art reference to a challenged claim. Under § 102(a), a challenged claim is anticipated if it was patented or described in a printed publication in the United States or a foreign country before the challenged claim’s date of invention. Under § 102(b), a challenged claim is anticipated if it was patented or described in a

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

printed publication in the United States or a foreign country more than one year prior to the challenged patent's filing date. Under § 102(e), a challenged claim is anticipated if it was described in published patent application that was filed by another in the United States before the challenged claim's date of invention, or was described in a patent granted to another that was filed in the United States before the challenged claim's date of invention.

33. I understand that a challenged claim's date of invention is presumed to be the challenged patent's filing date. I also understand that the patent owner may establish an earlier invention date by proving the actual date on which the named inventors conceived of the subject matter of the challenged claim and proving that the inventors were diligent in reducing the subject matter to practice.

34. I understand that the filing date of patent is generally the filing date of the application filed in the United States that issued as the patent. However, I understand that a patent may be granted an earlier effective filing date if the patent owner properly claimed priority to an earlier patent application.

35. I understand that when a challenged claim covers several structures, either generically or as alternatives, the claim is deemed anticipated if any of the structures within the scope of the claim is found in the prior art reference.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

36. I understand that when a challenged claim requires selection of an element from a list of alternatives, the prior art teaches the element if one of the alternatives is taught by the prior art.

B. Obviousness

37. I understand that a claim is unpatentable if it would have been obvious to a person of ordinary skill in the art at the time the alleged invention was made, even if that claim is not anticipated. I understand that a claim could have been obvious from a single prior art reference or from a combination of two or more prior art references.

38. I understand that an obviousness analysis requires an understanding of the scope and content of the prior art, any differences between the alleged invention and the prior art, and the level of ordinary skill in evaluating the pertinent art.

39. I further understand that certain factors may support or rebut the obviousness of a claim. I understand that such secondary considerations include, among other things, commercial success of the patented invention, skepticism of those having ordinary skill in the art at the time of invention, unexpected results of the invention, any long-felt but unsolved need in the art that was satisfied by the alleged invention, the failure of others to make the alleged invention, praise of the alleged invention by those having ordinary skill in the art, and copying of the

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

alleged invention by others in the field. I understand that there must be a nexus, that is, a connection, between any such secondary considerations and the alleged invention. I also understand that contemporaneous and independent invention by others is a secondary consideration tending to show obviousness.

40. I further understand that a claim would have been obvious if it unites old elements with no change to their respective functions, or alters prior art by mere substitution of one element for another known in the field, and that combination yields predictable results. Also, I understand that obviousness does not require physical combination/bodily incorporation, but rather consideration of what the combined teachings would have suggested to persons of ordinary skill in the art at the time of the alleged invention.

41. While it may be helpful to identify a reason for this combination, I understand that there is no rigid requirement of finding an express teaching, suggestion, or motivation to combine within the references. When a product is available, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill in the art can implement a predictable variation, obviousness likely bars its patentability. For the same reason, if a technique has been used to improve one device and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique would have been obvious. I understand that a

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

claim would have been obvious if a person of ordinary skill in the art would have had reason to combine multiple prior art references or add missing features to reproduce the alleged invention recited in the claims.

42. I am not aware of any allegations by the named inventors of the '887 patent or any assignee of the '887 patent that any secondary considerations tend to rebut the obviousness of any claim of the '887 patent discussed in this declaration.

43. I understand that in considering obviousness, it is important not to determine obviousness using the benefit of hindsight derived from the patent being considered.

44. The analysis in this declaration is in accordance with the above-stated legal principles.

C. Claim Construction

45. I understand that a patent may include two types of claims, independent claims and dependent claims. I understand that an independent claim stands alone and includes only the limitations it recites. I understand that a dependent claim depends from an independent claim or another dependent claim. I understand that a dependent claim includes all the limitations that it recites in addition to the limitations recited in the claim (or claims) from which it depends.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

46. In comparing the challenged claims to the prior art, I have carefully considered the patent and its file history in light of the understanding of a person of skill at the time of the alleged invention.

47. I understand that to determine how a person of ordinary skill would have understood a claim term, one should look to sources available at the time of the alleged invention that show what a person of skill in the art would have understood disputed claim language to mean. It is my understanding that this may include what is called “intrinsic” evidence as well as “extrinsic” evidence.

48. I understand that, in construing a claim term, one should primarily rely on intrinsic patent evidence, which includes the words of the claims themselves, the remainder of the patent specification, and the prosecution history. I understand that extrinsic evidence, which is evidence external to the patent and the prosecution history, may also be useful in interpreting patent claims when the intrinsic evidence itself is insufficient. I understand that extrinsic evidence may include principles, concepts, terms, and other resources available to those of skill in the art at the time of the invention.

49. I understand that words or terms should be given their ordinary and accepted meaning unless it appears that the inventors were using them to mean something else or something more specific. I understand that to determine whether a term has special meaning, the claims, the patent specification, and the

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

prosecution history are particularly important, and may show that the inventor gave a term a particular definition or intentionally disclaimed, disavowed, or surrendered claim scope.

50. I understand that the claims of a patent define the scope of the rights conferred by the patent. I understand that because the claims point out and distinctly claim the subject matter which the inventors regard as their invention, claim construction analysis must begin with and is focused on the claim language itself. I understand that the context of the term within the claim as well as other claims of the patent can inform the meaning of a claim term. For example, because claim terms are normally used consistently throughout the patent, how a term is used in one claim can often inform the meaning of the same term in other claims. Differences among claims or claim terms can also be a useful guide in understanding the meaning of particular claim terms.

51. I understand that a claim term should be construed not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the entire specification. I understand that because the specification is a primary basis for construing the claims, a correct construction must align with the specification.

52. I understand that the prosecution history of the patent as well as art incorporated by reference or otherwise cited during the prosecution history are also

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

highly relevant in construing claim terms. For instance, art cited by or incorporated by reference may indicate how the inventor and others of skill in the art at the time of the invention understood certain terms and concepts. Additionally, the prosecution history may show that the inventors disclaimed or disavowed claim scope, or further explained the meaning of a claim term.

53. With regard to extrinsic evidence, I understand that all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises, can also be considered. For example, technical dictionaries may indicate how one of skill in the art used or understood the claim terms. However, I understand that extrinsic evidence is considered to be less reliable than intrinsic evidence, and for that reason is generally given less weight than intrinsic evidence.

54. I understand that in general, a term or phrase found in the introductory words or preamble of the claim, should be construed as a limitation if it recites essential structure or steps, or is necessary to give meaning to the claim. For instance, I understand preamble language may limit claim scope: (i) if dependence on a preamble phrase for antecedent basis indicates a reliance on both the preamble and claim body to define the claimed invention; (ii) if reference to the preamble is necessary to understand limitations or terms in the claim body; or (iii) if the

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

preamble recites additional structure or steps that the specification identifies as important.

55. On the other hand, I understand that a preamble term or phrase is not limiting where a challenged claim defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention. I understand that to make this determination, one should review the entire patent to gain an understanding of what the inventors claim they invented and intended to encompass in the claims.

56. I understand that 35 U.S.C. § 112 ¶ 6 created an exception to the general rule of claim construction called a “means plus function” limitation. These types of terms and limitations should be interpreted to cover only the corresponding structure described in the specification, and equivalents thereof. I also understand that a limitation is presumed to be a means plus function limitation if (a) the claim limitation uses the phrase “means for”; (b) the “means for” is modified by functional language; and (c) the phrase “means for” is not modified by sufficient structure for achieving the specified function.

57. I understand that a structure is considered structurally equivalent to the corresponding structure identified in the specification only if the difference between them are insubstantial. For instance, if the structure performs the same function in substantially the same way to achieve substantially the same result. I

further understand that a structural equivalent must have been available at the time of the issuance of the claim.

V. Person of Ordinary Skill in the Art

58. I understand that factors that may be considered in establishing the level of ordinary skill in the art relevant to the patent-in-suit include the type of problems encountered in the art, prior art solutions to those problems, rapidity with which innovations are made, sophistication of the technology, and educational level of active workers in the field.

59. I understand that a person of ordinary skill in the art (“POSITA”) is one who is presumed to be aware of all pertinent art, thinks along conventional wisdom in the art, and is a person of ordinary creativity. A POSITA would have had knowledge of distributed systems, streaming media, and various HTTP-related technologies as of 2000.

60. A person of ordinary skill in the art at the time of the claimed invention would be someone with 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.

61. Based on my education and experience, I would have easily exceeded the criteria for a POSITA in March 2000, and I still exceed it today.

VI. Overview of the State of the Art in March 2000

A. Basic Internet protocols and techniques

62. The Internet's predecessor was developed as a communications infrastructure in the 1960's that was robust and could withstand loss of many elements of the network in the face of a disaster.

63. Many of the modern day protocols used in operating and communicating over the Internet arose from those requirements. Unlike the traditional circuit switched networks such as telephone networks, the Internet is connectionless, meaning that paths through the network components need not be pre-allocated in order to communicate from one network device to another. In addition, different parts of a communication over the Internet do not need to traverse the same path.

64. The Internet Protocol used to transmit messages over the Internet uses packets called IP packets. The Internet Protocol limits the size of each IP packet but allows those packets to be of variable length. Messages that exceed the maximum IP packet size must be chopped up into multiple packets. The fragmentation of data streams into packets is typically done by higher-layer protocols. The data content of a video frame, for example, typically exceeds the

maximum IP protocol data unit of around 1500 bytes, and must be fragmented into a series of IP packets.

65. Each IP packet contains an “IP header” that contains both the IP address of the source of the packet as well as the IP address of the intended destination of the packet. Using the example of a typical video frame being transmitted over IP, the information in the frame is chopped into a series of IP packets, each of which contains a source and destination address. IP headers do not contain any sort of ordering or sequencing information for the associated content.

66. The Internet offers no guarantees on the delivery of packets to the user in the same order that they were sent – in fact, the Internet offers no guarantees at all on whether the sent IP packets will even reach their destination. Thus, other protocols were layered on top of IP to both guarantee ordering and delivery. TCP – often referred to as TCP/IP for “TCP over IP”- was developed to guarantee reliable in-order, lossless delivery of a data stream.

67. The client-server model that is at the heart of the Internet communications design uses a simple conceptual model for managing interactions between a client computer and server computer. Generally, a client computer initiates an interaction, or session, by making a request for a resource (e.g., a file or information) that is accessible via the server computer. In an Internet-based

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

exchange, the client computer opens a TCP/IP session with the server communication, and presents requests to that server, which the server then responds to.

68. Before 2000, several types of communications protocols were commonly used to transfer information between a client and server over the Internet. The most well-known protocols were HTTP (hyper-text transfer protocol), and File Transfer Protocol (FTP). Each of these protocols was published openly and used widely by Internet standards organizations such as the Internet Engineering Task Force (IETF), the World-Wide-Web Consortium (W3C) and others. *See, e.g.*, Ex-1031 (RFC 1945 - Hyper-Text Transfer Protocol v1.0 (1996)); Ex-1032 (RFC 959 - File Transfer Protocol (FTP))(October 1985); *See also generally* Ex-1043 (RFC 1580 - Guide to Network Resource Tools) (March 1994).

69. As I noted above, each of these communication protocols employed a common conceptual model – a client requested information and the server responded by providing the information. Each of these protocols also had to comply at a technical and design level with the standardized communication protocols and design of the Internet – packet-based communications, routing via intermediaries, use of sessions, etc.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

70. Before the mid 1990's, the Internet was widely used to transfer information stored in files. The information content in the file (e.g., a text, image, computer program) did not generally affect how one would retrieve the file or how it was transferred.

B. Web sites, HTML, and URLs

71. In the mid to late 1990's, a user would view web pages on the Internet via a browser such as Netscape Navigator, which was released in December of 1994 and Microsoft Internet Explorer, which was released in August of 1995.

72. A web browser like Netscape Navigator would run on the user's computer and display content retrieved from a web server. Ex-1033 (Montulli) at 4:50-55 ("The World-Wide-Web ('The Web') uses the client-server model to communicate information between clients and servers. Web servers are coupled to the Internet and respond to document requests from Web clients. Web clients (also known as Web 'browsers') are programs that allow a user to simply access Web documents located on Web servers."). The HTTP protocol governs the interaction between web clients and web servers, and specifies how a client requests documents from a web server, and how a web server responds. Ex-1031 (RFC 1945 - Hyper-Text Transfer Protocol v1.0 (1996)).

73. One of the main innovations of the Web was that web-based documents were coded using the "Hypertext Markup Language" ("HTML") (Ex-

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

1034, RFC 1866 - Hypertext Markup Language - 2.0 (1995)) which allowed the in-line specification of “links” to other documents. A web browser would use the declaration of a link in an HTML document to render the link text to indicate to the user that it was an active element by, for example, colorizing, underlining, and/or highlighting the link text. The selection of the active link by the user would cause the web browser to load the document specified in the link. Though prior to the web, the Internet allowed for the download of documents, most commonly via FTP servers, the downloaded documents did not actively link to other documents nor was there a standard document viewer in which this linking feature could be integrated.

74. Initially, HTML documents were purely text-based. While image files were posted on the web in the early days, images had to be downloaded and then opened in a separate application. The Web began to gain widespread popularity when web browsers and HTML documents began to support in-line graphical images in 1993.

75. The Web used “Uniform Resource Locaters” (“URLs”) to specify the location of documents and the protocol by which the documents should be accessed. Ex-1035, RFC 1738 - Uniform Resource Locators (URL) (1994). The URL consists of a “scheme” that typically maps to a protocol to be used in accessing the specified document, such as “http” or “ftp.” *Id.* at pp. 2, 5, 17. A

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

colon “:” separates the scheme from the scheme-specific portion of the URL. *Id.* at pp. 2, 17. For HTTP, a host specifies the name (*e.g.* “www.hulu.com”) or IP address (*e.g.*, “184.85.21.112”) of a network host on which the document resides. The host is followed by a url-path, which specifies the file path (*e.g.*, “/hub/movies/index.html”) on the host for the specified document.

76. URLs are used in HTML documents in several different ways. Links use a URL to specify the target of a link. When a link is activated, if the linked document is another HTML page, a new page will be rendered. If the linked document is another type of document, for example, a PDF file, image or a sound file, the file may be downloaded and rendered within the browser depending on its capabilities, it may be downloaded and saved, or it may be downloaded and another application may be launched to open the downloaded file.

77. URLs are also used to specify in-line items such as images, code files, or applets. These types of items are downloaded after the HTML document is parsed, and rendered within the HTML page itself, but are not themselves active links (although images may be embedded within an active link).

78. In addition, URLs may be used by other applications, even applets embedded within the browser, to specify any type of resources, for example, a set of rotating banner images, or a playlist of audio or video files. Each URL would

reference an independent file, and since each URL contains its own host field, each item may be located on a different Internet server.

C. Web site back end processing

79. In the early days of the Web, most web pages were static, that is, HTML documents were contained in files that were simply saved on the web server and delivered as-is when requested by a client. However, early web servers had the ability to integrate back-end processing through a “Common Gateway Interface” (“CGI”) script. A computer program (accessed via a URL) would run every time the CGI script was accessed and could generate HTML code to create a page on-the-fly.

80. In 1994, I presented a co-authored paper titled “Active Pages: Intelligent Nodes on the World Wide Web” at the first World Wide Web Conference held in Geneva, Switzerland, the birthplace of the web. The paper describes CGI web page scripts that we implemented on our web servers that dynamically generated web pages from a database on a web server. The data presented on the “active” web page could be modified from the web page itself.

81. As the 1990’s progressed, more web sites utilized dynamically generated pages. Early versions of this capability appeared first as “server side includes” in which the file stored statically could include specific directives which would cause a pre-processor to insert specified content before the file request was

returned. Server side include directives included the capability to execute a program, such as a CGI script, and include the output within the HTML page being requested.

82. In the mid 1990's, specific programming languages tailored for web site development were created, such as PHP. PHP files added more tightly integrated programmatic capability into dynamically generated web pages, including the ability to directly access a database. Many popular web sites of the time utilized this kind of capability.

83. Around the same time, JavaScript was introduced, which allowed programs to be integrated on the web page to run on the client side, in the browser. JavaScript was integrated with the web document and could access, modify, and interact with elements of the web page.

84. In the late 1990's, "Asynchronous JavaScript and XML" ("AJAX") was introduced. AJAX allows elements of a web page to interact with a server within a web page while the user is viewing and interacting with a single web page (as opposed to only when the web page is first requested). User interactions, such as selecting a checkbox or selecting an item from a drop-down list, can cause the web page to retrieve specific data from a web site that is used to update a portion of the web page.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

85. By the time of the claimed priority date of the patent, the web had extensive programmatic capability on both the client and server sides, the ability to access databases to generate highly custom web pages, and these features were widely used.

D. Targeting content to individual users

86. It was well known by the mid-1990s that it was useful to target content, such as banner advertisements to individual users rather than to indiscriminately displaying content to users collectively. Ex-1036 (Gallagher) at 3-4 (“We contend that both the attraction effectiveness and efficiency of banner advertising can be improved by precisely targeting advertisements based on characteristics and behavior of individual users of information services.”).

87. In 1997, The New York Times leveraged its registered subscriber base to offer advertisements targeted to specific groups of users. Ex-1037 (New York Times) (“The New York Times Electronic Media Company today announced a new database marketing system for its web site (<http://www.nytimes.com>) that allows advertisers to leverage the site’s 100% registered user base to deliver unmatched on-line marketing and communications solutions. Specifically, this new database approach enables The New York Times on the Web to identify and customize user groups, to target messages to specific segments and adjust them based upon reactions, and to expand targeting possibilities through third-party data

or additional user-supplied information.”). Although not the first to deliver targeted advertising, the New York Times recognized as early as 1997 the benefit of delivering targeted advertising based on data mined from registered user’s profiles. *See also* Ex-1038 (Herhold, S., “Web Effort Aims at Tailoring Pitches to the Right People,” The Philadelphia Inquirer (February 27, 1997)).

E. Media streaming

88. In the 1990’s, the predominate method to access the Internet from home was through a dial-up modem. The bit rates at the time for dial-up access were in the kilobits per second, up to around 56 kbits/sec.

89. The world-wide web only began to become known in the early to mid-1990’s, and a company web site was not even a must-have until after 1995 or later. As the world-wide web became more popular, more new services appeared. In the mid-1990’s, companies began promoting “streaming services” over the Internet. Because of the limited access speeds, even audio files could take minutes (or longer) to download. Streaming services allowed the players to begin playing a media file as it was receiving the file, before the file had been completely transmitted, and could start with a slight delay of a few seconds.

90. Audio streaming services such as Progressive Networks (later known as RealAudio) were compressing their real-time streamed audio to a bit rate of 8 kbits/sec by May 1, 1995. This allowed many home users to be able to stream the

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

audio to their home computers without waiting for the entire file to download first, and to listen to audio while audio segments that needed to be played in the near future were being downloaded. It also allowed for home users using 14.4 kbps modems to access the streaming RealAudio content.

91. Streaming thus made listening to audio content more practical, since one could start listening to a stream a short time after receiving the first part of the stream. Streaming players buffer a portion of the audio to help account for the variability in delivery of packets over the Internet. The streaming application plays the content at the “front” of the buffer, as more data arrives at the “back” of the buffer. As long as the consumption rate is at or slightly less than the average arrival rate of data, then the player will not usually drain the buffer.

92. Streaming media allowed traditional broadcast radio to reach an audience outside its geographic limitations. Progressive Networks launched its RealAudio technology in early 1995. Audio content partners such as ABC and NPR provided show clippings for the service. Progressive Networks went on to deliver live-event streams later in 1995.

93. In the late 1990’s and accelerating in the early 2000’s, cable modem technology became standardized and available. The coaxial cables into homes carrying hundreds of channels of cable television had a lot more bandwidth than the twisted pair telephone wires going into a home. Internet access through cable

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

modems could offer speeds of hundreds of kilobits per second and even megabits per second or more – hundreds of times faster than telephone dial-up access.

94. This vast increase in bandwidth into the home made it possible for video to be streamed into homes over the data network connection.

95. Cable television also evolved significantly over the 1990's. Cable television began to switch over from analog television transmission to digital transmission during the late 1990's.

96. As bandwidth into the home grew, the Web became more popular as an access method for multimedia audio/video files and streaming video.

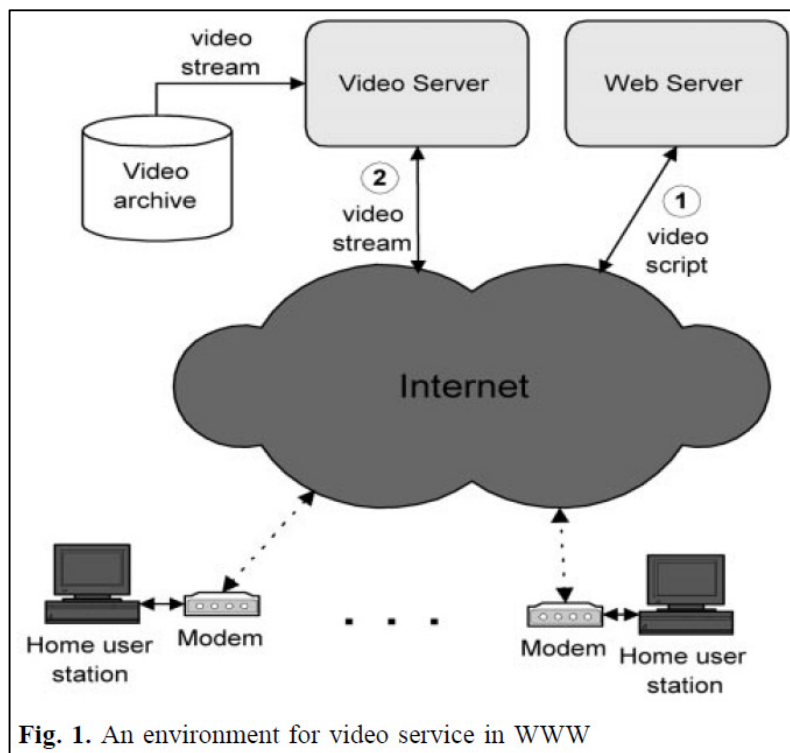
97. As of the date of the claimed inventions disclosed in the '887 Patent, streaming audio over the Internet, including streaming of content from AM and FM radio stations, was already available. There were also a number of software programs readily available for streaming and playing audio content over the web by 2000.

98. RealAudio, developed by Progressive Networks, was a major supplier for both server side streaming software and client side player software at the time. The first version of the RealAudio system, which was publicly released in beta format on April 10, 1995 allowed users of personal computers to browse, select and play back audio content on demand.

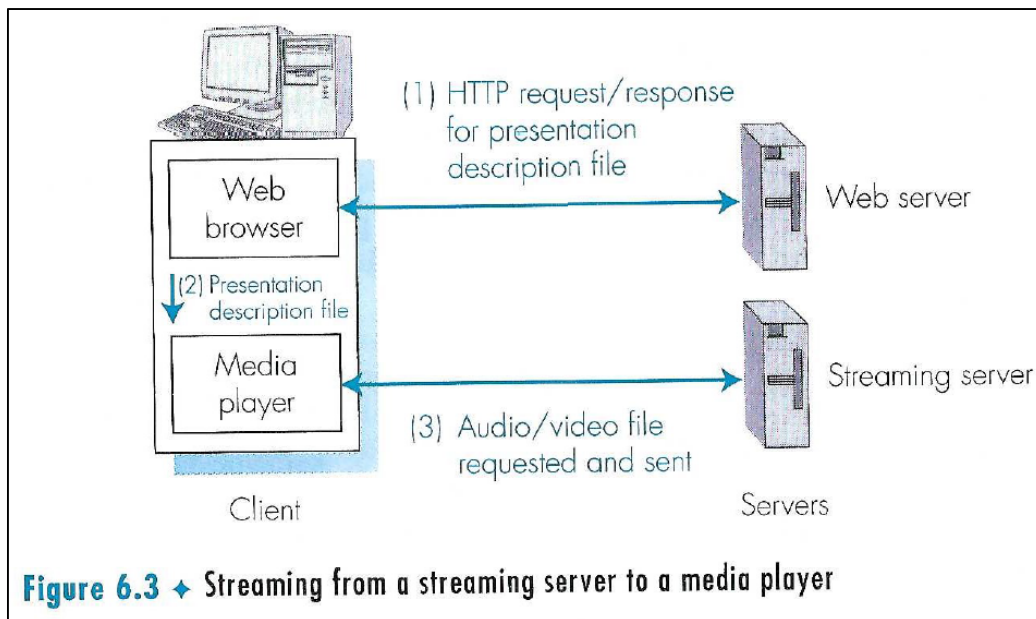
99. As detailed by RealPlayer documents, the RealAudio system utilized a meta-data descriptor known as a RAM file. The RAM file contained a list of links to RealAudio files (which may be locally or remotely stored), which would be played sequentially as a playlist by the RealAudio application. When a user wanted to listen to RealAudio, one method of starting the audio was by clicking on a link on a web page. That link allowed the browser to retrieve a RAM file via a URL. If there was a RealAudio plug-in or helper application configured, then the plug-in or application would be activated and would play sequentially through the list of audio files provided in the RAM file.

F. Distributed Systems

100. Others in the field also published ideas for improved streaming systems. For example, in 1998, Hua et al. described a “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 at 1; FIG. 1 (below):



101. 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 at 496; FIG. 6.3 (below):



G. Play lists

102. Playlists were a very common method of sequencing through a plurality of audio and file files. For example, old record jukeboxes maintained a list of songs to which people could add songs. This age old method was carried through to various multimedia systems. As described above, the RealSystem G2 also maintained playlists for video clips at the RealPlayer: “RealPlayer keeps a playlist of clip titles.”

103. The '887 Patent itself mentions prior art systems by RealNetworks (Ex-1001 at 28:32-33 & 10:16) and Microsoft Windows Media Player (*id.* at 28:32 & 48:6). File types for communicating with streaming end users were also well-known. *See id.* at 10:17 (SMIL); Ex-1051 at [0025] & [0110]-[0111] (ASX); Ex-1031 to Ex-1035; Ex-1043.

104. RealNetworks RealPlayer system for “delivery of streaming media content over the Internet and intranets” had millions of users by 1997. Ex-1013 at 40. RealNetworks used SMIL (Synchronized Multimedia Integration Language), which is a “XML compliant markup language that coordinates when and how multimedia files play” by allowing the author to “describe the temporal behavior of the presentation,” “describe the layout of the presentation on a screen,” and “associate hyperlinks with media objects.” Ex-1014 at 98; Ex-1015 at 2. In 1998, RealNetworks released its RealSystem G2, which enabled content providers to

insert advertisement videos into a longer video, for an “effect ... like a television program with commercial breaks” and could pull ads from “any server, whether RealServer, a Web server, or an ad server” because “a SMIL file lists separate URLs to each clip.” Ex-1016 at 90-91.

105. Microsoft’s Windows Media Player also used playlists and enabled inserting advertisements into playlists. *See* Ex-1017 and Ex-1018. Windows Media Player used ASX and ASF files: the ASF files were “Microsoft’s native file format for streaming media” including “multimedia data types (images, audio, and video) as well as embedded text (URLs, for example)” and individual “ASF clips” were “combined into play lists by creating ASX files, which described each ASF clip and provided playback instructions, including instructions on where ASF files are located and what order to play them. Ex-1018 at 1; *see also* Ex-1017 at 1-3. ASX files could have instructions to insert advertisements. Ex-1017 at 4, Ex-1018 at 1.

H. Content delivery networks

106. Content Delivery Networks (“CDNs”), developed by the late 1990s, served and managed content for multiple content providers via distributed, interconnected, and cooperating network servers. *See* Ex-1020. Though CDNs were “designed to handle any file type, streaming media [was] the most obvious

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

application.” Ex-1020 at 14. Companies like Akamai Technologies provided commercial CDN services by 1999. *See* Ex-1021, Ex-1022.

VII. Overview of the '887 Patent

107. The '887 patent, titled “System and Method for Routing Media,” is one of a family of patents that relate to the “fields of management and administration of media streaming.” *See* Ex-1001 at Cover & 1:36-37. The '887 Patent is directed to “a distributed media routing algorithm” that accounts for the needs of a media content owner, a network owner, and content viewers. *See* Ex-1001 at 3:62-4:1. The '887 Patent explains that a key aspect of this media management is 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.* at 4:7-10. The program may be used to create a presentation, consisting of multiple media items, tailored for that viewer based on characteristics such as “the individual’s sex, age, hobbies, historical viewing habits, or other data the viewer would provide.” *Id.* at 4:13-28.

108. Another aspect of managing media discussed by the '887 Patent and all of the challenged claims is sharing revenue generated by streaming content to viewers among those parties, such as content owners and network owners who provided a portion of the service. *See, e.g.,* Ex-1001 at claim 98 (“wherein the requested media is associated with at least one revenue sharing rule...producing at

least one settlement record reflecting a sharing of the percentage of revenue generated”).

109. 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:

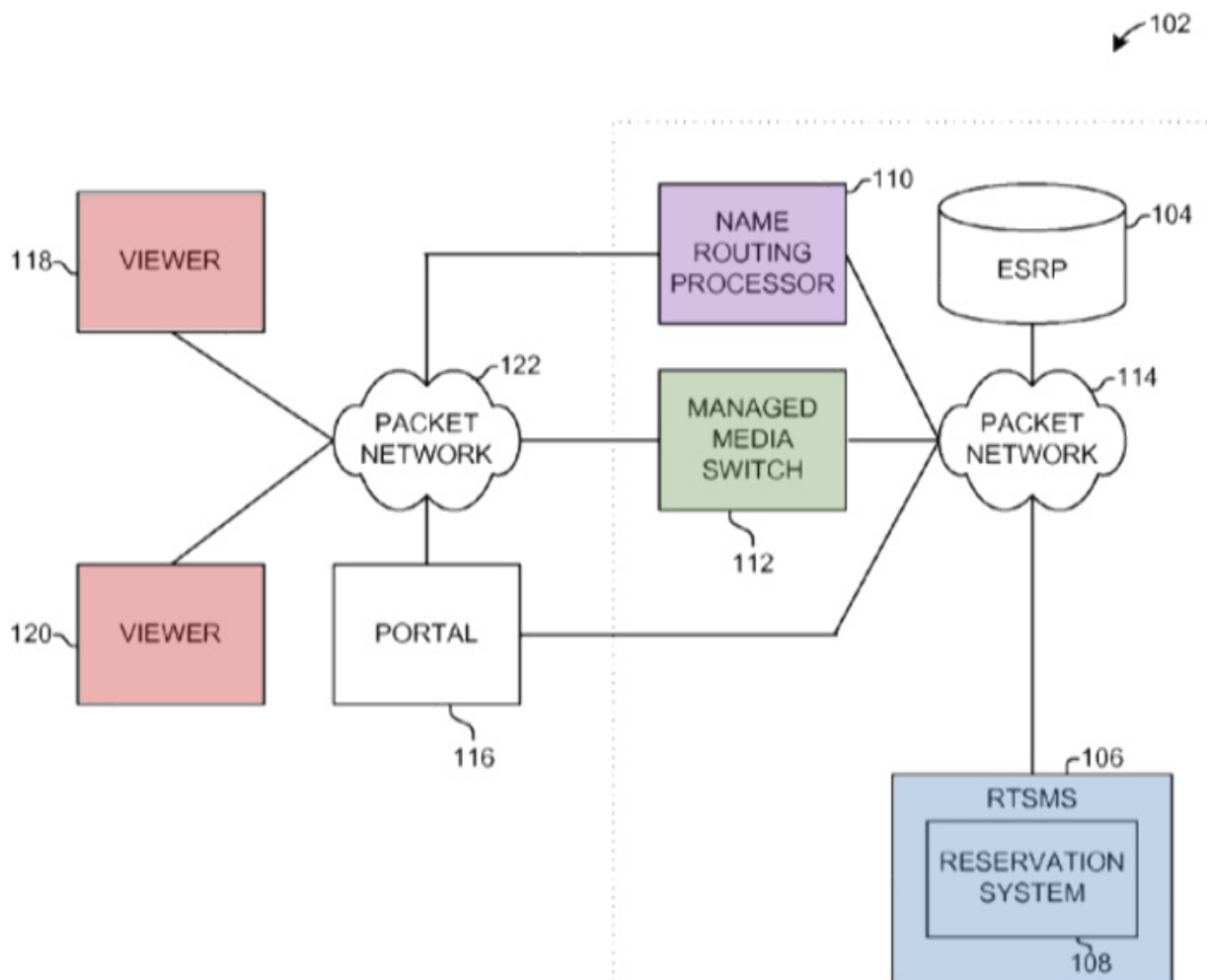


FIG. 1

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

110. The '887 Patent explains that “a media owner generates a program” that is placed on the enhanced service routing processor (ESRP). Ex-1001 at 18:29-30. The “program” indicates, in this 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%.” *Id.* at 18:39-41. The ESRP distributes the program to switches, such as the **managed media switch (MMS)** and also to the **real time switch management system (RTSMS)**. *Id.* at 18:44-48. Although the '887 Patent uses various coined terms and acronyms to describe the various parts of the streaming system, it does not describe any specialized hardware beyond generic computers performing generic data processing tasks such as receiving and responding to requests. The challenged claims similarly recite only generic hardware terms like “computing device” and “communication device” rather than the coined terms used in the specification. *See, e.g.*, Ex-1001 at claim 98.

111. When a **viewer** chooses to watch the program, the **viewer** selects a link on the portal, which sends a request to the **reservation system of the RTSMS**. *Id.* at 18:50-54. The **reservation system** builds a reservation for the requested media (*id.* at 18:65-19:3) and sends the reservation to the **viewer** and to the name routing processor (NRP) (*id.* at 19:12-16). The **viewer** contacts the NRP (*id.* at 19:17-20), which processes the reservation data (*id.* at 19:21-32), locates an

***Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh***

MMS that can stream the media to the viewer (*id.* at 19:33-37), transmits the IP address for the MMS to the viewer (*id.* at 19:38-39), and transmits the reservation data to the MMS (*id.* at 19:39-40). The viewer connects to the MMS using the reservation number, and if the reservation number matches the reservation data from the NRP, the MMS streams the media to the viewer. *Id.* at 19:45-47.

112. Once all requested media has been streamed to the viewer, the streaming session ends. *Id.* at 19:53-54. The MMS sends session information to the RTSMS and notifies the NRP that streaming is complete. *Id.* at 19:56-62. The NRP also sends session information to the RTSMS. *Id.* The RTSMS processes the information from the NRP and the MMS (*id.* at 19:63-65) and creates a summary the stream called a message sequence detail record (MSDR) (*id.* at 19:65-20:2). The RTSMS applies the rules, such as how revenue is to be shared, to the MSDR and produces a financial settlement and report crediting 80% of the revenue generated to the media owner and 20% of the revenue generated to the network owner. *Id.* at 20:3-8.

VIII. Prosecution History of the '887 Patent

113. U.S. Patent Application No. 13/841,015 (the '015 Application)—which issued as the '887 Patent—was filed on March 15, 2013 and is a continuation of several U.S. Patent Applications in a chain of applications that claim priority to January 19, 2001. Ex-1002 at 2. As originally filed, the '015

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

Application included 44 claims. *Id.* at 76-83. Claims 1, 13, 26, 39, and 42 were the independent claims. *Id.* Claims 1 and 39 (along with their respective dependent claims) were method claims, and claims 13, 26, and 42 (along with their respective dependent claims) were system claims. *Id.*

114. On August 6, 2013, all 44 claims of the '105 Application were rejected. *Id.* at 117-159. Claims 13-38 and 42-44 were rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter because, under the broadest reasonable interpretation of “computing device,” the claims were unpatentably “directed toward a software per se itself.” *Id.* at 119-120. Claims 1-44 were rejected under 35 U.S.C. § 103 U.S. as unpatentable over Patent No. 6,698,020 (“Zigmond”) and U.S. Patent No. 6,516,338 (“Landsman”). *Id.* at 120-145.

115. On February 6, 2014, the Applicant amended the specification to clarify that a “referring device” could not be a “website URL.” *Id.* at 162. The pending claims (claims 1-44) were substantially amended. *Id.* at 163-173. 26 new claims (claims 45-70) were added. *Id.* at 174-179. The Applicant also submitted remarks disagreeing with the 35 U.S.C. §§ 101 and 103 rejections. *Id.* at 180-185. The Applicant argued that the broadest reasonable interpretation of a claim drawn to a computing device does not cover software per se, noting that the plain and ordinary meaning of “device” was well known to be hardware. *Id.* at 180-181. The Applicant also sought to distinguish Zigmond and Landsman. *Id.* at 182-185.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

116. On May 8, 2014, the Applicant participated in an interview with the Examiner. *Id.* at 258. No agreement on allowance was reached. *Id.* at 260. Another interview occurred on May 17, 2014. *Id.* at 313. The records of the May 17 interview indicated that new claims were being considered, and that the Examiner and Applicant were able to negotiate an agreement on allowance. *Id.* Claims 1-70 were amended. *Id.* at 263-295. 56 new claims (claims 71-126) were added. *Id.* at 295-310. All 126 claims were allowed. *Id.* at 261, 311-312. Regarding the previous rejections under § 103, 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.* at 311. The prior rejection under § 101 was withdrawn because the applicant “stated on the record that the claimed ‘computing device’ has a hardware structure,” and that the claimed “computing device” would therefore be “strictly construed to have some hardware.” *Id.* The Notice of Allowance was mailed on May 23, 2014, and the ’887 patent issued on September 2, 2014. *Id.* at 315, 379.

IX. Priority Date of the ’887 Patent

117. Although the ’887 Patent claims priority to applications filed as early as 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.”

118. 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 at Claims 39, 45, 68, and 98. The April 2001 Application does not disclose such “instructions.” It merely describes 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” that is to be sent to the communication device. Ex-1010 at [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.* at [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.*

119. The Provisional Application similarly fails to describe the claimed instructions, instead discussing:

(a) Instructions from a content provider to a reservation system regarding whether to process or pause the communication device’s request for media.

Ex-1011 at 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.”

(b) “Instructions about how the player should present the media to the viewer,” which merely instruct how to display media to a user. *Id.* at 15.

These are not the claimed “instructions as to how... requested media is to be streamed.” Instead, they merely disclose how to display media that was already streamed.

(c) 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.* at 15 & 26. Second, they do not enable the communication device to stream the requested media, but instead are “instructions [to] change the content.” *Id.*

120. Because neither the April 2001 Application nor the Provisional Application provide adequate support for the claimed “instructions,” neither supports a priority date earlier than January 18, 2002, the 2002 Application’s filing date.

X. Claim Construction

121. It is my opinion that a POSITA would have understood the term “**settlement record**,” as used in the claims of the ’887 patent, as follows:

122. 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.”).

XI. Grounds for Finding the Challenged Claims Invalid

123. I understand that Petitioner is challenging the validity of claims 39-40, 45, 47, 52, 68, 98-101, 103, 105, 111, and 115-117 of the ’887 Patent.

A. Overview of the Prior Art References

1. Eyal

124. Eyal, titled “Streaming Media Search and Continuous Playback System of Media Resources Located by Multiple Network Addresses,” was filed

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

on May 2, 2000 and claims priority to Provisional Application No. 60/177,786, filed on January 24, 2000. Ex-1005 at Cover. Eyal issued on May 14, 2002 as U.S. Patent No. 6,389,467. *Id.* Eyal is prior art to the '887 Patent under at least 35 U.S.C. § 102(e), regardless of whether the challenged claims are entitled to a priority date of January 19, 2001 or January 18, 2002.

125. Eyal describes many features of its system in detail. Its detailed description begins with a “System Overview” (*id.* at 8:45-10:15), followed by descriptions of subsystems like the “Search and Playback System,” (*id.* at 10:16-18:8), and the “Media Search Engine,” (*id.* at 18:9-24:31). Eyal further explains a “Verification and Extraction Flow Processes” (*id.* at 24:32-28:58) and a “Rating System for Media Play Back” (*id.* at 28:59-31:59) for use in the system, along with further description of how to implement “Personalized Media Playback” (*id.* at 31:60-32:19), a “Distributed Architecture” (*id.* at 32:20-34:3), “Messaging Applications” (*id.* at 34:4-35:57), and a “User Interface” (*id.* 35:58-38:22). Eyal concludes by explaining that its “description of various embodiments of the invention” is “for purposes of illustration and description,” and “not intended to limit the invention to the precise forms disclosed.” *Id.* at 38:23-27. A POSITA would understand that by providing a general explanation of the Eyal system at the front of the specification, and providing progressively more detailed explanations as the specification continued, that the teachings should be understood as one

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

system with many possible compatible variations. In other words, 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. Nevertheless, throughout my analysis of Eyal below, I have considered the various teachings cited in support of my opinions and concluded that they are all, in fact, related to the same system as opposed to separate systems or embodiments.

126. Eyal “relates to a computer system that enables a continuous streaming media playback from a distribution of sites available over a network such as the Internet.” Ex-1005 at 1:16-19. Figure 19 (annotated below) shows an overview:

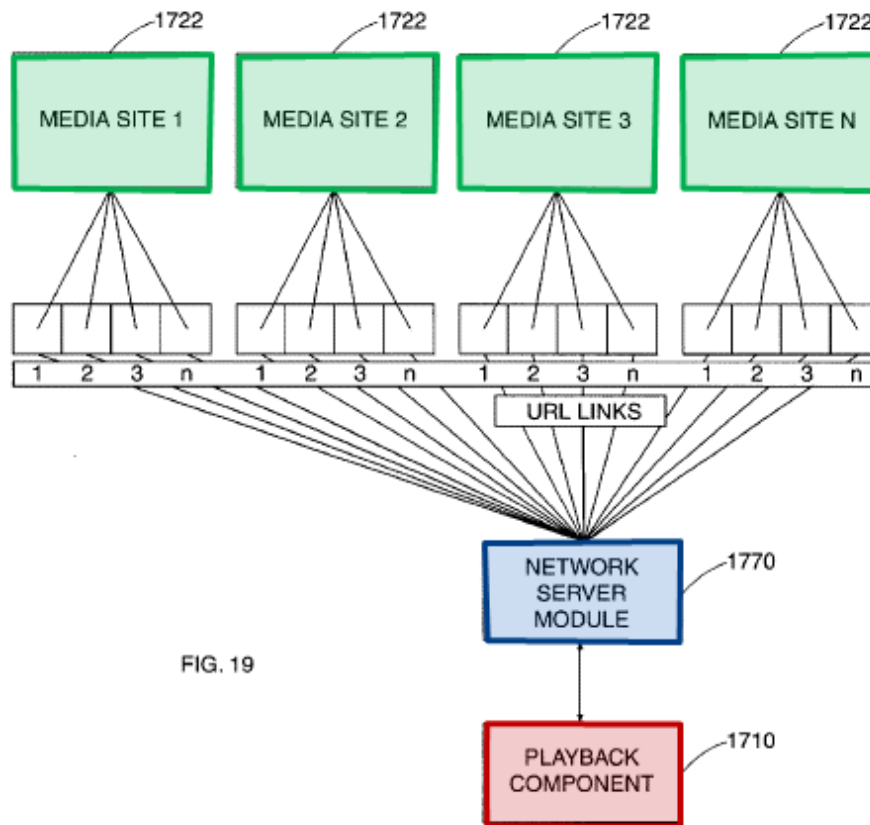


FIG. 19

127. The Eyal system and method allow “streaming media [to] be continuously outputted to users from multiple sites on the Internet based on personalized criteria set forth by users.” *Id.* at 10:1-3. In Eyal, “[t]he network server **receives a request** for media playback from the network enabled device, **selects multiple addresses** from the database, and **signal[s] the multiple addresses to the network enabled device.**” Ex-1005 at 2:35-38 (emphasis added). *See also id.* at 3:32-43.

128. 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,”

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

and sends that play-list to the requesting device. *Id.* at 4:47-55. *See also, id.* at 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.* at 27:37-40. The user device then repeats the process with another URL on the playlist. *See, e.g. id.* at 27:47-60.

129. Eyal teaches that other media, including targeted advertisements, news items, and weather reports, can be inserted between requested media in the play-list for playback. *Id.* at 13:1-8. Eyal further teaches that a variety of metadata, such as duration, media URL, source website, media type, clip broadcast quality, and image size for videos, may be in the play-list and provide instruction to the playback device. *Id.* at 12:43-63.

2. *Angles*

130. 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 at Cover. Angles is prior art to the ’887 patent under at least 35 U.S.C. § 102(e), even under the earliest claimed priority date for the ’887 patent (*see* Ex-1030).

131. Angles describes delivering customized electronic advertisements in an interactive communication system that includes web sites with audio and video content. Ex-1045 at Abstract, 10:23-26, 12:44-48, 13:53-59, and 21:65-22:5.

Angles's "customized advertisements are selected based on consumer profiles."

Id. at 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 at 4:19-28 & 16:30-33. Angles also discusses crediting consumers/viewers and Internet service providers. Ex-1045 at 16:10-56 & 21:19-41.

3. Chang

132. Chang, titled "Efficient Streaming of Synchronized Web Content from Multiple Sources," was filed on September 15, 1999 as application No. 09/396,241. Ex-1009 at Cover. Chang issued on March 30, 2004 as U.S. Patent No. 6,715,126. *Id.* Chang is prior art to the '887 Patent under at least 35 U.S.C. § 102(e) even applying the earliest claimed priority date.

133. Chang teaches a method for "efficiently delivering a presentation of web content comprised of a media, such as audio or video content, having defined time increments, together with one or more other content sources." Ex-1009 at Abstract. The presentation's contents are "synchronized" such that the "images or events are displayed at predetermined time increments in the media presentation."

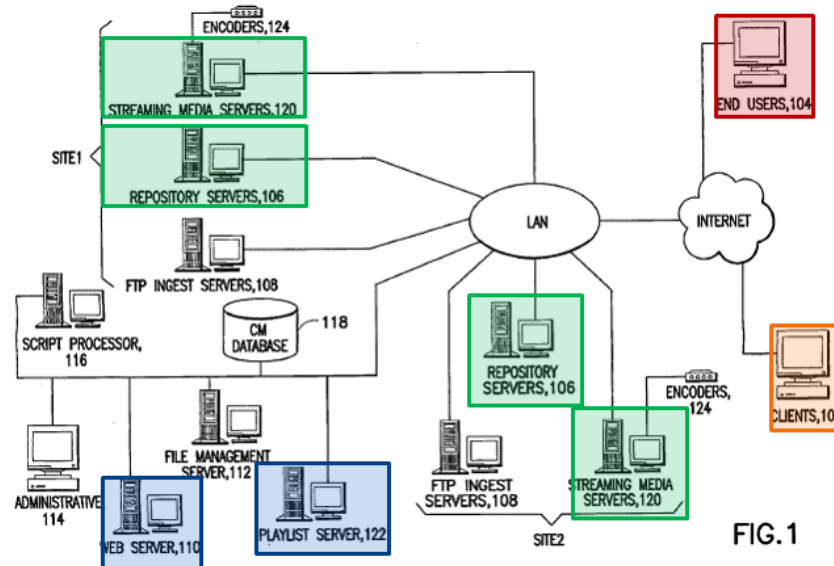
Ex-1009 at Abstract. Chang considers that “the various media are provided from different sources” (Ex-1009 at 1:18-21), and proposes a “HotAudio file” which contains the “appropriate auxiliary information” for synchronized playback (Ex-1009 at 3:43-53). *See also* Ex-1009 at 4:11-12, 5:25-9:25, Fig. 2 (describing the contents and format of the HotAudio file).

4. Madison

134. 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 on January 18, 2001, and published on April 29, 2004 as Patent Application Publication No. US 2004/0083273. Ex-1051 at Cover. I understand that Madison is prior art to the ’887 Patent under at least 35 U.S.C. §102(e).

135. Madison teaches a “method and system for allowing clients to upload, manage, and deliver streaming media content via the Internet,” wherein streaming media content includes video. Ex-1051 at [0003], [0031]; Ex-1052 at 1:4-6, 6:3-8. Madison’s “system 100 allow[s] **clients** 102 to up-load streaming media content to the system 100, manage such content, and make the content available to **end users** 104 via a **web site** on the Internet.” Ex-1051 at [0020]; Ex-1052 at 1:20-2:2. In particular, the “client 102 up-loads streaming media content to the **repository or storage server**” (Ex-1051 at [0022]; Ex-1052 at 2:12-14), and

the media content is “eventually transferred...to one or more streaming media server[s]...,where it is available for streaming via the Internet” (Ex-1051 at [0025]; Ex-1052 at 3:22-4:1). Figure 1, color-coded below, illustrates the key components of Madison’s system.



136. Madison’s system uses a distributed network of servers in different geographies, and “each client account is associated with a site located in...the geography where the [end users] 104 likely to access the client’s content are located so to speed the delivery of the streaming media content.” Ex-1051 at [0030]; Ex-1052 at 5:16-18.

137. In Madison, a user requests content by clicking a URL, which identifies media content—here, a playlist with identification number “12345.” Ex-1051 at [0106], [0107]; Ex-1052 at 25:7-11.

138. The request goes to a “playlist server 122 that will execute the ‘makeplaylist.asp’ program and dynamically generate a playlist redirector file.” Ex-1051 at [0108]; Ex-1052 at 25:12-13. The redirector file comprises a list of URLs for each stream file, including the proper prefix, hostname, and stream filename, as shown in the example below—“the URL prefix is ‘mms://’, the hostname is ‘mediaserver.company.com’ and the stream file name is ‘filename.asf.’” Ex-1051 at [0109]; Ex-1052 at 26:7-12.

<“mms://mediaserver.company.com/filename.asf”>

Id. Madison teaches that the redirector file comprises multiple URL entries “to be passed to the media player stored on the end user’s computer 104” and provides the following example “of a redirector file for use with Windows Media Technologies.” Ex-1051 at [0110]; Ex-1052 at 26:13-19.

```
<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>
```

Id.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

139. Using the redirector file, “the end user’s media player pulls each identified stream file from the media server 120 identified in the redirector file in the order in which it appears in the file.” Ex-1051 at [0111]; Ex-1052 at 26:22-23.

a) Madison is Entitled to the January 18, 2001 priority Date of its Provisional Application

140. I understand that Madison is prior art to the ’887 Patent under at least 35 U.S.C. §102 (e) as of its provisional filing date. Madison is thus prior art as of January 19, 2001, the earliest priority date on the face of the ’887 Patent. I have compared Madison to its provisional reference and note that Madison, starting at the beginning of the detailed description in [0020] through [0112] is nearly identical to the provisional application. Figures 1-5 are similarly nearly identical and Figures 7 and 8 in Madison correspond to Figures 6 and 7 in the provisional. Specifically for the citations to Madison in this declaration, the provisional reference provides support as shown in the table below.

Madison (Ex-1051)	Provisional (Ex-1052)
[0003]	1:4-6
[0020]	1:18-2:2
[0021]	2:3-11
[0022]	2:12-22
[0025]	3:1-13

***Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh***

[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

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

[0110]	26:13-19
[0111]	26:20-23
[0112]	27:1-5
FIG. 1	FIG. 1
FIG. 2b	FIG. 2

141. As shown in the table below, the Madison provisional application provides written description support for Madison claim 1. Thus, I understand that Madison meets the requirements for its the prior art date to be the provisional filing date, January 18, 2001.

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,

***Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh***

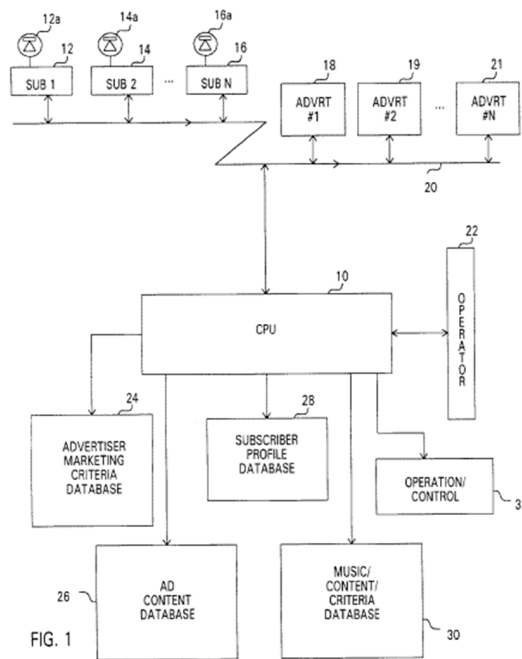
	with the hostname of the streaming server 120 on which it resides”); 17:14-17; FIG. 2
assigning a unique identifier to the digital content;	6:1-16 (“records, each of which identifies an item of streaming content by a stream ID”), 6:21-7:1; 8:12-19; 13:5-12; 24:8-15; 25:5-9
providing the client with the 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”)

5. *Wolfe*

142. Wolfe, titled “Programmed Music On Demand From The Internet,” was filed on March 21, 1997 and issued on August 3, 1999 as Patent No. 5,931,901. Ex-1044 at Cover. I understand Wolfe is prior art to the ’887 Patent under 35 U.S.C. § 102(a), (b), and (e).

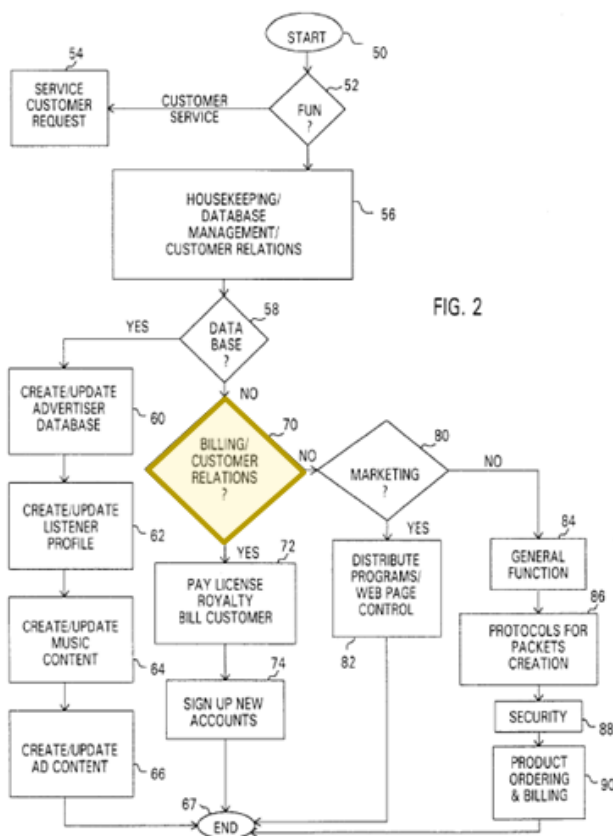
143. Wolfe teaches a method of providing programmed media content, such as music, via the Internet to subscribers and bundling such programming with advertisements “tailored to the individual.” Ex-1044 at 1:51-60. In Wolfe, a “central processing unit (CPU)...which interfaces via the Internet...with a plurality of subscriber operating PCs 12, 14...16 (or other device capable of receiving individualized content for audio and/or video production)” transmits programmed media information over the Internet, bundled with “targeted advertising material ...paid for by advertisers 18, 19...21.” Ex-1044 at 3:48-61; *see* FIG. 1 (below).

***Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh***



144. The CPU includes databases with subscriber profiles and advertiser preferences for tailoring content and advertisements to the subscriber. *Id.* at 3:66-4:29. “[T]he specific musical material and advertisements transmitted may vary as a function of the information contained in the dossiers of the subscribers,” and “programmed music and advertisements may change as a function of the time of year or other conditions.” *Id.* at 3:40-46. Although Wolfe focuses on “audio/musical messages,” “the advertising copy may be video information.” *Id.* at 5:15-22.

145. In Wolfe, the CPU also performs billing functions, represented by decisional blocks in Figure 2. Ex-1044 at 4:30-32, FIG. 2.



146. Decisional block 70 “determine[s] whether it is necessary to take care of billing matters.” *Id.* at 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.* at 5:29-33. Wolfe teaches that “[t]ogether, this information is useful, for example, for calculating (if necessary) royalty fees payable to the owners of the music...[and making] an accounting ...of the total advertising air time used” and billing advertisers accordingly. *Id.* at 5:33-44.

B. Ground 1: Eyal combined with Angles renders obvious claims 39-40, 45, 47, 52, 68, 98-101, 103, 111, and 115-117

1. Reasons to Combine Eyal and Angles

147. 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 teachings because Eyal's general desire to utilize targeted advertising would be better achieved with the detailed mechanisms for both tailored advertising, tracking, and charging taught by Angles. Eyal teaches responding to requests with "play-lists" comprising URLs identifying the requested media, the delivery server for retrieving the media, and metadata associated with the media. Ex-1005 at 19:30-20:38.

148. Eyal also teaches inserting advertisements that are "targeted to the audience" into the play-lists. Ex-1005 at 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 are then integrated with offerings maintained by different content providers." Ex-1045 at 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.* at 4:19-28.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

149. A POSITA would have been motivated to use teachings from similar systems to track delivery of advertisements and determine what payments and credits are needed for revenue derived from the delivery of those advertisements.

150. 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. Angles uses "conventional computer[s]" for its content provider computer and advertisement provider computer, so its functions could be readily implemented without adding any specialized hardware. *See* Ex-1045 at 12:30-32, 13:38-40. Moreover, Eyal and Angles structure their respective servers' functionalities as "modules." *Compare* Ex-1005 at FIG. 2 ("Play-lists generator module," "Web server module," and "Back-end Database Management System Module") *with* Ex-1045 at FIG. 4 ("content server module" and "advertising module"). A POSITA would also understand the modular nature of these functionalities to suggest interoperability and that "modules" could be implemented on any given physical server.

151. Both Angles and Eyal store media information in a database accessible from the system's back-end. *See* Ex-1005 at 31:20-59; Ex-1045 at FIG. 4. Angles teaches that the "advertisement database 70 is implemented with Structured Query Language (SQL) code. The structured query language is a language standardized by the International Standards Organization (ISO) for

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

defining, updating and querying relational databases. For example, the advertisements can be organized and stored in the advertisement database 70 with any number of commercial database programs including Microsoft⁷ [sic] Access, Oracle's relational database products and the like.” Ex-1045 at 16:1-9. Eyal teaches that “[t]he backend tier includes the database management system 245. The database management System 245 includes a database 345 and a backend interface module 355. The backend interface module 355 may be provided with, for example, a Microsoft SQL Server system (MS SQL).” Ex-1005 at 16:62-67. Furthermore, both Eyal and Angles disclose using the database in a conventional manner when accessing information about media. *See, e.g.*, Ex-1005 at 14:50-53, 14:61-63, 15:13-16, 15:41-45, Ex-1045 at 15:34-40, 15:44-54, 19:8-11. Thus, 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 at 62; Ex-1054 at 187-190.

152. Accordingly, a POSITA would have had a reasonable expectation of success combining Eyal and Angles, and would have strong motivations to make the combination.

2. *Claim 39*

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

153. Eyal teaches a “method for playing back media from a network.” Ex-1005 at 1:63-64. To the extent that claim 39’s preamble is limiting, Eyal teaches it.

154. Thus, in my opinion, claim 39’s preamble is met by Eyal.

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;”**

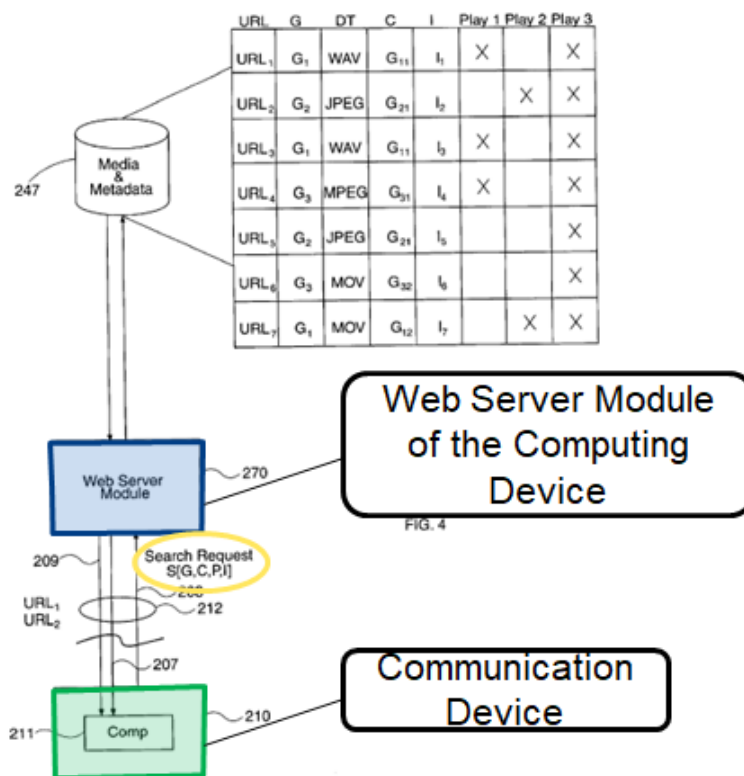
155. Eyal teaches “receiving a request for media playback from a network enabled device.” Ex-1005 at 1:63-65. In Eyal’s system, an “end terminal,” (*i.e.*, the communication device), sends the request to server modules, which collectively constitute the claimed computing device. *Id.* at 19:30-40; *see also* 10:17-18.

156. If Patent Owner argues Eyal does not teach combining all or certain modules on one computing device, a POSITA would have found it obvious to do so. Eyal itself suggests combining multiple different server modules on a single device by using the term “modules” rather than devices and indicating that “one or more” may be present “on a server.” Ex-1005 at 10:17-18. Eyal further explains

that modules “can exist with other modules on the same server.” *Id.* at 11:38-44.

A POSITA would have desired to minimize the number of computing devices necessary to execute such functions, at least for the purpose of building and testing the Eyal system.

157. The “web server module” receives the request via a communication network. Ex-1005 at 19:30-40, FIG. 4 (annotated below); *see also* 10:33-38.



158. Eyal’s server modules (the computing device) provide the end terminal with instructions to obtain a portion of the requested media, as explained below for element [39.c.3]. The server modules also provide the end terminal with an identification of a resource other than the modules by providing URLs mapping

to addresses of media sites, as explained below for element [39.c.2]. The user terminal's "media play-back component" executes the instructions and uses the identification of another resource (the URLs that identify the media sites) to access sites on the network (the other resource) and play back media from those sites. Ex-1005 at 20:30-49; *see also* 27:47-53.

159. Thus, in my opinion, element [39.a] is met by Eyal.

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;"

160. Eyal's server modules (the computing device) include a database management system "to maintain information used in providing media searching and playback to user terminal[s]." Ex-1005 at 13:65-14:9. The server modules also include a program, called the "automatic media verification and metadata extraction (AMVME) module 240," that identifies whether media is available for streaming. *Id.* at 14:50-52. The AMVME "verifies each media link in media and metadata table 247," including verifying each media link is "available for playback by users." *Id.* at 14:52-60. "[B]roken links, inoperational or unavailable media are precluded from being verified." *Id.* at 12:35-36. Those media links which are verified as available for playback by users are "structured into play-lists." *Id.* at

12:64-67. Thus, in accordance with the AMVME, Eyal's modules identify whether requested media available for streaming.

161. Thus, in my opinion, element [39.b] is met by Eyal.

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,”

162. Eyal teaches generating a response to the communication device's request. Ex-1005 at 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.* at 19:21-23; 19:35-38. I described the AMVME for element [39.b] directly above, and incorporate that discussion here.

163. Eyal teaches further that the response is generated based on the end-terminal's capabilities. For example, Eyal teaches adjusting the URLs in the response to specify different protocols based on the communication device's player. *Id.* at 21:35-46 (describing using “HTTP” or “PNM” protocol signals in URLs depending on “the media playback component”); *see also* 13:52-54. A POSITA would understand that playback software in conjunction with the operating system running on a particular hardware device provides a device capability, as the type of player on a machine determines, for example, what type

of media that device is capable of playing. Eyal suggests as much, stating that “multimedia capability is manifested in the availability of a streaming multimedia playback **software** and or hardware component.” Ex-1005 at 13:52-54 (emphasis added).

164. Eyal also explains that the response is generated 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 at 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 at 13:3-4.

165. Thus, in my opinion, element [39.c] is met by Eyal, including every sub-element described below.

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

166. Eyal teaches “metadata” including “identifier information” like the “name of a specific media creation.” Ex-1005 at 20:9-14; *see also* 12:37-63 (“identification” metadata). This metadata is included in the response returned to the user. *Id.* at 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. Furthermore, Eyal discloses generating a play-list, for

example, “from predefined categories characterized by information stored in the database system for media links and metadata stored in table 247.” Ex-1005 at 37-45. The individual items in the play-list individually and collectively identify a portion of the requested media. Thus, a POSITA would understand that these teachings constitute identifying a portion of the requested media.

167. Thus, in my opinion, element [39.c.1] is met by Eyal.

- (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”

168. 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 at 19:41-54, 20:30-39. The description of Eyal’s “Distributed Architecture” (*id.* at 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 at 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 at 32:54-57. Fig. 19 illustrates a plurality of media sites which each have media accessible via a plurality of URLs. Ex-1005 at Fig. 19, 32:43-53. Since the play-lists comprise a plurality of URLs

(Ex-1005 at 27:33-35), each which may correspond to different locations on the networks, the URLs identify a plurality of media site resources, some or all of which are different than Eyal's server modules, even if one media site coincides with the server modules themselves. Indeed, Eyal specifically discloses that "the media play back component" "automatically aid[s] continuous[] play back media using numerous sites on a network." *Id.* at 27:58-60. Thus, a POSITA would understand that these teachings constitute an identification of a resource other than Eyal's server modules.

169. Thus, in my opinion, element [39.c.2] is met by Eyal.

(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;"

170. 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 at 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 at 27:53-55.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

171. Eyal also teaches that the response is generated based on metadata in the media and metadata database specifying instructions. Ex-1005 at 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.* at 12:43-63.

172. Eyal also teaches inserting advertisements. Ex-1005 at 13:1-4.

173. Thus, a POSITA would understand that these teachings constitute instructions for how to stream media to the end-user’s device.

174. Thus, in my opinion, element [39.c.3] is met by Eyal.

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;”

175. Eyal’s web server module transmits the response including the play-lists to the user terminal. Ex-1005 at 20:30-64 (“response 209 is signaled to the media play-back component 211” 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).

176. Thus, in my opinion, element [39.d] is met by Eyal.

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”**

177. Eyal teaches “links to streaming media commercials may be inserted into the play-lists in various locations between media clips.” Ex-1005 at 13:1-4.

178. 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 at 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 at 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”). Furthermore, Angles teaches that the sharing of revenue based on the monitoring of the advertisements also “frees the content providers from having to generate advertising data, from having to individually contact advertisers, from

having to negotiate advertising payment fees, and from having to maintain an advertising administrative staff.” Ex-1045 at 4:24-29.

179. 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, and to free the content providers from the overhead of having to sell ads.

180. Thus, in my opinion, element [39.e] is met by Eyal combined with Angles.

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.”

181. 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 at 21:19-36.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

182. 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 at 16:10-19; *see also* 16:20-56. The claimed settlement record, as that term is construed above, 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].

183. Thus, in my opinion, element [39.f] is met by Eyal combined with Angles.

* * * * *

184. In my opinion, Eyal combined with Angles thus renders obvious claim 39.

3. ***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.”***

185. As described for the “Distributed Architecture” of Eyal (Ex-1005 at 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 at

32:62-65. This playback is “streaming media playback.” *Id.* at 1:18-19. As discussed above in connection with element [39.c.2], the media sites are at least one other resource.

186. In my opinion, Eyal combined with Angles thus renders obvious claim 40.

4. Claim 45

a) Preamble: “A method comprising:”

187. As shown below, claim 45’s preamble is identical to claim 39’s preamble. The teachings previously identified for claim 39’s preamble also teach claim 45’s preamble.

Claim 39	Claim 45
A method comprising:	A method comprising:

188. Thus, in my opinion, element claim 45’s preamble is met by Eyal.

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,”

189. As shown below, element [45.a] is identical to element [39.a]. The teachings previously identified for element [39.a] also teach element [45.a].

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

Claim 39	Claim 45
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;	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,

190. Thus, in my opinion, element [45.a] is met by Eyal.

- 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;”**

191. As shown below, element [45.b] is similar to element [39.e]. The teachings previously identified for element [39.e] also teach most of element [45.b].

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

Claim 39	Claim 45
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	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;

192. Element [45.b], however, additionally requires 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 at Abstract (“customized advertisements are selected based on consumer profiles and are then integrated with offerings maintained by different content providers.”).

193. Thus, in my opinion, element [45.b] is met by Eyal combined with Angles.

d) Element [45.c]: “identifying, at the at least one computing device, whether the requested media is

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

available for streaming to the at least one communication device;”

194. As shown below, element [45.c] is identical to element [39.b], except that element [39.b] includes additional limitations (“in accordance with at least one program”) that are not present in element [45.c]. The teachings previously identified for element [39.b] also teach element [45.c].

Claim 39	Claim 45
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;	identifying, at the at least one computing device, whether the requested media is available for streaming to the at least one communication device;

195. Thus, in my opinion, element [45.c] is met by Eyal.

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;”

196. 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

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

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 at 13:1-5.

197. Eyal’s server modules also generate play-lists based on various other rules, such as predefined categories of characteristics stored on a database (*id.* at 15:37-45), the ratings of certain media (*id.* at 28:58-31:59, describing Eyal’s “Rating System”), or otherwise personalized for the viewer (*id.* at 31:60-32:19, describing “Personalized Media Playback”).

198. Thus, in my opinion, element [45.d] is met by Eyal.

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;”

199. 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 at 20:27-30. The processed rule is selected from the many rules present in Eyal’s system. *See, e.g.*, Ex-1005 at 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);

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

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.

200. Thus, in my opinion, element [45.e] is met by Eyal.

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,”

201. As shown below, element [45.f] is similar to element [39.c], except that element [39.c] recites generating “based on the at least one program,” whereas element [45.f] recites generating “based on the at least one rule.” The teachings previously identified for element [39.c] also teach most of element [45.f].

Claim 39	Claim 45
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,	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,

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

202. As for the additional limitation, generating “based on the at least one rule,” Eyal teaches using a rule to select the media for inclusion in the play-lists. *See* elements [45.d] and [45.e] directly above. Thus, the play-list is “generated” based on the rule.

203. Thus, in my opinion, element [45.f] is met by Eyal, including every sub-element described below.

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

204. As shown below, element [45.f.1] is identical to element [39.c.1]. The teachings previously identified for element [39.c.1] also teach element [45.f.1].

Claim 39	Claim 45
(i) at least one list identifying at least a portion of the requested media,	(i) at least one list identifying at least a portion of the requested media,

205. Thus, in my opinion, element [45.f.1] is met by Eyal.

(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

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

of the at least one portion of the requested media,
and”

206. As shown below, element [45.f.2] is identical to element [39.c.2].

The teachings previously identified for element [39.c.2] also teach element [45.f.2].

Claim 39	Claim 45
(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	(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

207. Thus, in my opinion, element [45.f.2] is met by Eyal.

(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;”

208. As shown below, element [45.f.3] is identical to element [39.c.3].

The teachings previously identified for element [39.c.3] also teach element [45.f.3].

Claim 39	Claim 45
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Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

(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;	(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;
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209. Thus, in my opinion, element [45.f.3] is met by Eyal.

***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”**

210. As shown below, element [45.g] 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 the list, identification, and instructions are transmitted to the communication device. The teachings previously identified for element [39.d] also teach element [45.g] because they explain that the response is sent from the web server module (the computing device) to the user terminal (the communication device).

Claim 39	Claim 45
transmitting the at least one list, the least one identification of the at least	transmitting the at least one list, the least one identification of the at least

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

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;	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
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211. Thus, in my opinion, element [45.g] is met by Eyal.

- 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.”***

212. As shown below, element [45.h] is substantively similar to element [39.f], despite different wording. The teachings previously identified for element [39.f] also teach element [45.h].

Claim 39	Claim 45
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	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.

generated by streaming the at least the portion of the requested media.	
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213. First, element [45.h] claims “producing” a settlement record, whereas element [39.f] claims “generating” one. Angles’s records of billable events discussed there are “produced” just as they are “generated.”

214. Second, element [45.h] claims a settlement record “reflecting a sharing,” whereas element [39.f] claims a settlement record “based on the at least one revenue sharing rule for sharing between the at least two parties.” Angles’s teachings are relevant for both: the settlement record discussed for element [39.f] is based on a rule requiring sharing between two parties, and therefore “reflect[s]” the sharing.

215. Thus, in my opinion, element [45.h] is met by Eyal combined with Angles.

* * * * *

216. In my opinion, Eyal combined with Angles thus renders obvious claim 45. Due to significant overlap between the language of claim 45 and claim 39, much of my analysis for claim 45 has involved references back to claim 39. In coming to the conclusion that claim 45 is rendered obvious by the prior art, I have considered the claim as a whole.

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

217. As discussed above in connection with 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.

218. Angles teaches an “advertising module” that implements an advertising revenue sharing rule (here, a rule for sharing advertising revenue between multiple parties). Ex-1045 at 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 explicitly states that the shared revenue comes from advertising. Ex-1045 at 16:45-49.

219. In my opinion, Eyal combined with Angles thus renders obvious claim 47.

6. 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.”

220. Angles teaches a service rule identifying how a media viewing should be paid (*i.e.*, through advertising revenue). Ex-1045 at 16:28-56. Angles teaches

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

that number of advertisements viewed by consumers can be monitored and based on this information, the content providers can receive advertising revenue. *Id.* at 4:19-24. Angles further explains that the “advertisement provider can pay the content provider based on the volume of advertisements actually displayed by the content provider,” can “pay an Internet provider,” and/or can “pay the consumer.” *Id.* at 16:28-56. 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 at 16:28-56, 20:39-49.

221. In my opinion, Eyal combined with Angles thus renders obvious claim 52.

7. Claim 68

a) Preamble: “A method comprising:”

222. As shown below, claim 68’s preamble is identical to claim 39’s preamble. The teachings previously identified for claim 39’s preamble also teach claim 45’s preamble.

Claim 39	Claim 68
A method comprising:	A method comprising:

223. Thus, in my opinion, claim 68’s preamble is met by Eyal.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

- 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,”**

224. As shown below, element [68.a] is identical to element [39.a]. The teachings previously identified for element [39.a] also teach element [68.a].

Claim 39	Claim 68
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;	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,

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

225. Thus, in my opinion, element [68.a] is met by Eyal.

- 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;”**

226. As shown below, element [68.b] is identical to element [45.b], except that element [68.b] adds the words “is further.” This does not change how a POSITA would understand the element, and the teachings previously identified for element [45.b] also teach element [68.b].

Claim 45	Claim 68
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;	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;

227. Thus, in my opinion, element [68.b] is met by Eyal combined with Angles.

- d) Element [68.c]: “identifying, at the at least one computing device, whether the requested media is**

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

available for streaming to the at least one communication device;”

228. As shown below, element [68.c] is identical to element [39.b], except that element [39.b] includes additional limitations (“in accordance with at least one program”) that are not present in element [68.c]. The teachings previously identified for element [39.b] also teach element [68.c].

Claim 39	Claim 68
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;	identifying, at the at least one computing device, whether the requested media is available for streaming to the at least one communication device;

229. Thus, in my opinion, element [68.c] is met by Eyal.

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;”

230. As shown below, element [68.d] is identical to element [45.d]. The teachings previously identified for element [45.d] also teach element [68.d].

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

Claim 45	Claim 68
identifying, at the at least one computing device, at least one rule for providing a streaming service associated with the requested media;	identifying, at the at least one computing device, at least one rule for providing a streaming service associated with the requested media;

231. Thus, in my opinion, element [68.d] is met by Eyal.

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;”

232. As shown below, element [68.e] is identical to element [45.e]. The teachings previously identified for element [45.e] also teach element [68.e].

Claim 45	Claim 68
processing the at least one rule from among a plurality of other rules for providing other streaming service associated with other media;	processing the at least one rule from among a plurality of other rules for providing other streaming service associated with other media;

233. Thus, in my opinion, element [68.e] is met by Eyal.

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

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

characteristic associated with a user of the communication device,”

234. As shown below, element [68.f] is identical to element [39.c], except that element [39.c] includes additional limitations (“the at least one program”) that are not present in element [68.f]. The teachings previously identified for element [39.c] also teach element [68.f].

Claim 39	Claim 68
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,	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,

235. Thus, in my opinion, element [68.f] is met by Eyal, including every sub-element described below.

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

236. As shown below, element [68.f.1] is identical to element [39.c.1]. The teachings previously identified for element [39.c.1] also teach element [68.f.1].

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

Claim 39	Claim 68
(i) at least one list identifying at least a portion of the requested media,	(i) at least one list identifying at least a portion of the requested media,

237. Thus, in my opinion, element [68.f.1] is met by Eyal.

- (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”

238. As shown below, element [68.f.2] is identical to element [39.c.2].

The teachings previously identified for element [39.c.2] also teach element [68.f.2].

Claim 39	Claim 68
(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	(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

239. Thus, in my opinion, element [68.f.2] is met by Eyal.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

- (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;”

240. As shown below, element [68.f.3] is identical to element [39.c.3].

The teachings previously identified for element [39.c.3] also teach element [68.f.3].

Claim 39	Claim 68
(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;	(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;

241. Thus, in my opinion, element [68.f.3] is met by Eyal.

- 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”**

242. As shown below, element [68.g] is nearly identical to element [45.g], except that element [68.g] says “the at least one identification,” whereas element [45.g] says “the least one identification.” This difference appears to be a mere drafting error (a typo omitting the word “at”) in claim 45. The teachings previously identified for element [45.g] also teach element [68.g].

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

Claim 45	Claim 68
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	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

243. Thus, in my opinion, element [68.g] is met by Eyal.

- 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.”**

244. As shown below, element [68.h] is substantively similar to element [39.f], despite different wording. The teachings previously identified for element [39.f] also teach element [68.h].

Claim 39	Claim 68
generating at least one settlement record based on the at least one	generating at least one settlement record based on the at least one

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

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.	revenue sharing rule to reflect a sharing of the percentage of revenue generated by streaming the at least the portion of the requested media.
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245. First, element [39.f] specifically requires sharing between “the at least two parties,” whereas element [68.h] merely requires “sharing.” The teachings cited for element [39.f], which show sharing between at least two parties, also show sharing.

246. Second, element [68.h]’s settlement record “reflect[s]” sharing, whereas element [39.f]’s record is “based on” a sharing rule. Angles’s teachings are relevant for both: the settlement record discussed for element [39.f] is based on a rule requiring sharing between two parties, and therefore “reflect[s]” the sharing.

247. Thus, in my opinion, element [68.h] is met by Eyal combined with Angles.

* * * * *

248. In my opinion, Eyal combined with Angles thus renders obvious claim 68. Due to significant overlap between the language of claim 68 and claims 39 and 45, much of my analysis for claim 68 has involved references back to

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

claims 39 and 45. In coming to the conclusion that claim 68 is rendered obvious by the prior art, I have considered the claim as a whole.

8. Claim 98

a) Preamble: “A media streaming management method comprising:”

249. To the extent that the preamble is limiting, Eyal teaches a media streaming management method. *See* Ex-1005 at 1:15-16.

250. Thus, in my opinion, claim 98’s preamble is met by Eyal.

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,”

251. As shown below, element [98.a] is nearly identical to element [39.a], except that element [98.a] specifies that the requested media is “streamed media.” Eyal teaches that the requested media is streamed media. *See* Ex-1005 at 1:15-16. The teachings previously identified for element [39.a] also teach the remaining limitations of element [98.a].

Claim 39	Claim 98
receiving, at at least one computing device via a communication network, a	receiving, via a communication network by at least one computing

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

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;	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,
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252. Thus, in my opinion, element [98.a] is met by Eyal.

- 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;”**

253. As shown below, element [98.b] is nearly identical to element [45.b], except that element [98.b] adds the words “wherein” and “is.” The teachings previously identified for element [45.b] also teach element [98.b].

Claim 45	Claim 98
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Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

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;	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;
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254. Thus, in my opinion, element [98.b] is met by Eyal combined with Angles.

- 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:”**

255. Eyal teaches element [98.c] for the reasons discussed for element [39.c]. Eyal additionally teaches that the response is transmitted to the end user device, from the server modules, over the Internet, in response to the end user’s request. Ex-1005 at 20:30-64, 10:33-38 (Internet); *see also* 7:22-23, 9:14-16.

256. Thus, in my opinion, element [98.c] is met by Eyal, including every sub-element described below.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

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

257. 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 at 20:9-14 (“name of a specific media creation”), 20:30-36; *see also* 12:37-63, 15:37-41, 15:55-58.

Claim 39	Claim 98
(i) at least one list identifying at least a portion of the requested media,	(i) at least one identification of the at least one portion of the requested media,

258. Thus, in my opinion, element [98.c.1] is met by Eyal.

- (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”

259. As shown below, element [98.c.2] is identical to element [39.c.2]. The teachings previously identified for element [39.c.2] also teach element [98.c.2].

Claim 39	Claim 98
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Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

(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	(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
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260. Thus, in my opinion, element [98.c.2] is met by Eyal.

(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”

261. As shown below, element [98.c.3] is identical to element [39.c.3].

The teachings previously identified for element [39.c.3] also teach element [98.c.3].

Claim 39	Claim 98
(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;	(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

262. Thus, in my opinion, element [98.c.3] is met by Eyal.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

- 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.”**

263. As shown below, element [98.d] is substantively similar to element [39.f], despite different wording. The teachings previously identified for element [39.f] also teach element [98.d].

Claim 39	Claim 98
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.	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.

264. First, element [98.d] claims “producing” a settlement record, whereas element [39.f] claims “generating” one. Angles’s records of billable events discussed there are “produced” just as they are “generated.”

265. Second, element [98.d] claims a settlement record “reflecting a sharing,” whereas element [39.f] claims a settlement record “based on the at least

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

one revenue sharing rule for sharing between the at least two parties.” Angles’s teachings are relevant for both: the settlement record discussed for element [39.f] is based on a rule requiring sharing between two parties, and therefore “reflect[s]” the sharing.

266. Thus, in my opinion, element [98.d] is met by Eyal combined with Angles.

* * * * *

267. In my opinion, Eyal combined with Angles thus renders obvious claim 98. Due to significant overlap between the language of claim 98 and claims 39 and 45, much of my analysis for claim 98 has involved references back to claims 39 and 45. In coming to the conclusion that claim 98 is rendered obvious by the prior art, I have considered the claim as a whole.

9. ***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.”***

268. The dependent limitation of claim 99 is substantively identical to element [98.c], except that claim 99 requires a “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 at 33:9-15, 13:3-4.

269. To the extent that Eyal does not explicitly teach a user identification, Angles teaches assigning a unique member code to each consumer. Ex-1045 at 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 at 3:56-67.

270. In my opinion, Eyal combined with Angles thus renders obvious claim 99.

10. 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.”

271. 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 at 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 at 13:3-4.

272. In my opinion, Eyal combined with Angles thus renders obvious claim 100.

11. 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.”

273. 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 at 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 at 12:28-67. Since a URL specifies a particular host, a directory path on that host, and a file within the specific directory on that host, a POSITA would recognize that the URL is unique, that is, the specific file in the specific directory on a specific host referenced cannot be referenced by using a different host, directory, or filename. Thus, a POSITA would understand that this metadata, included in Eyal’s URLs, uniquely identifies the linked media.

274. In my opinion, Eyal combined with Angles thus renders obvious claim 101.

- 12. 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.”**

275. 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 at 27:13-20; *see also* 21:35-46.

276. Eyal’s communication devices also use different protocols. *See id.* at 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.* at 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.”).

277. In my opinion, Eyal combined with Angles thus renders obvious claim 103.

13. 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.”

278. Eyal teaches generating instructions related to the media format like MIME-typed files. Ex-1005 at 19:30-66; *see also* 23:29-31 (“Examples of MIME types... include MOV, JPEG, RAM and WAVE”), 12:13-27. The data types of various resources are stored as metadata regarding particular media resources, and may be used to retrieve media of a particular format. Ex-1005 at 19:41-54.

279. Eyal also teaches generating instructions related to the media sequence. Ex-1005 at 20:30-38. Eyal explains further that the “media playback component continuously plays back media by (i) accessing a first site on the network and playing back media from the first site, (ii) then automatically accessing a second site and playing back media from the second site.” *Id.* at 27:47-55. “The sequence for automatically and continuously playing back media may be repeated for each media link included in the play-list.” *Id.* at 27:55-60. Because

the play-list “may include hundreds of media links,” it allows “the media play back component to automatically aid continuously play back media using numerous sites on a network.” *Id.*, 27:58-60. Eyal also teaches including instructions for streaming advertisement media: “In some embodiments, links to streaming media commercials may be inserted into the play-lists in various locations between media clips.” *Id.* at 13:1-8.

280. In my opinion, Eyal combined with Angles thus renders obvious claim 111.

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

281. Eyal teaches receiving requests for video. *See, e.g.*, Ex-1005 at 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.”).

282. In my opinion, Eyal combined with Angles thus renders obvious claim 115.

15. 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).”

283. 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 at 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 at 27:33-37; *see also* 20:30-38.

284. In my opinion, Eyal combined with Angles thus renders obvious claim 116.

16. 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.”

285. 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 at 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 at 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.

286. In my opinion, Eyal combined with Angles thus renders obvious claim 117.

C. Ground 2: Eyal combined with Angles and Chang renders obvious claim 105

1. Reasons to Combine

287. 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 at Abstract, 1:15-19; Ex-1009 at Abstract, 1:15-21. Eyal's play-list and Chang's HotAudio File both comprise similar elements. Ex-1005 at 9:14-20, Ex-1009 at 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.

288. 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. 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, rebuffers with more data, and then resumes play." Ex-1009 at 2:46-55. Angles also recognizes this bandwidth problem. *See* Ex-1045 at 12:15-16 ("current communications systems transfer data at much slower rates

than local storage devices”). Chang solves this rebuffering 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.

289. Moreover, all three systems use distributed architectures and internet connections for delivering content to end users. *See* Section XI.B.1 (discussing Eyal and Angles architectures). In Chang, “various media are provided from different sources.” Ex-1009 at 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 XI.B.1 (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 at 62; Ex-1054 at 187-190.

290. 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 at 66-69; Ex-1054 at 190. A POSITA would also have known how to select the appropriate records from the combined database. *See* Ex-1055 at 73-74; Ex-1054 at 192. Based on the three systems similar underlying technologies and the known benefits, a POSITA would have expected the combination to be successful.

2. ***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.”***

291. 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 at 21:35-46. Eyal’s play-lists are also based on sequence. *Id.* at 27:47-60.

292. 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 at 5:25-40, 8:55-53. The HotAudio file’s metadata specifies frame rate, bit rate, and sequence. Ex-1009 at 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, B1 kbps”), 6:17-44 (“FFT_SEQUENCENUM”).

293. It is thus my opinion that Eyal and Chang teach claim 105’s dependent limitation, and combined with Angles, render claim 105 obvious.

D. Ground 3: Madison combined with Wolfe renders obvious claims 39, 45, 52, 68, 98-101, 103, 105, 111, 115, and 117

1. Reasons to Combine Madison and Wolfe

294. 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.

295. 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. Both references describe distributing media over a network, such as the Internet. Ex-1051 at [0003] ("up-load, manage, and deliver streaming media content via the Internet"); Ex-1044 at 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 at 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 thereof targeted to the subscriber."); Ex-1051 at [0032] ("ad tag... specifie[s] where an advertisement is to be inserted").

296. 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. 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 at 1:55-60. *See also*, Ex-1044 at 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 at 5:37-44.

2. Claim 39

a) Preamble: “A method comprising:”

297. Madison teaches a “method and system for providing digital content via the Internet.” Ex-1051 at [0003]. If the preamble is limiting, Madison teaches claim 39’s preamble.

298. Thus, in my opinion, claim 39’s preamble is met by Madison.

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

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

media using at least one resource other than the at least one computing device;”

299. Madison’s “end-user” is the claimed communication device. Ex-1051 at [0020]-[0021] (describing “end-users” with “personal computer[s],” “web enabled cellular telephone[s] or personal digital assistant[s],” or other similar “processor[s]” “coupled to the Internet”). The “playlist server” is the claimed computing device. Ex-1051 at [0025] (“playlist server... dynamically generat[es] a playlist metafile”). To access streaming content, Madison teaches that end users make a request for media by selecting a link on a client’s web page: “An end user 104 desiring to listen to or view the web cast on their computer or other device can click on the URL.” Ex-1051 at [0106].

300. The playlist server responds with a “redirector file,” for example, an ASX file. Ex-1051 at [0109]-[0110]. As discussed below for element [39.c.3], a POSITA would understand that the redirector file could contain instructions for the end-user’s device to execute. The end-user uses the redirector file to obtain media from another resource, the “streaming media server,” as discussed for element [39.c.2].

301. Thus, in my opinion, element [39.a] is met by Madison.

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;”

302. Madison’s computing device has a “Streams2” Table with expiration dates. Ex-1051 at [0031]-[0032]. The expiration dates identify whether the associated media is available (*i.e.*, expired content is not available for streaming). 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 at [0034] (status of “deleting” applicable to files on “[r]epository server” and “media server”). This understanding is consistent with Madison’s description of a script running on the computing device that deletes expired content. Ex-1051 at [0047] (“For each record containing such an expiration date, the systems proceeds to delete the content.”).

303. Madison explains, for example, that “Streams2 Tables” is “in the CM database” and that “it is within the scope of the present invention to distribute the contents of the CM Database 118 throughout the system.” Ex-1051 at [0109] and [0028]. A POSITA would understand the “Streams2 Table” to be part of Madison’s playlist server (the computing device). 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.

304. Thus, in my opinion, element [39.b] is met by Madison.

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,”

305. Madison’s playlist server generates a redirector file using a “makeplaylist” program. Ex-1051 at [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”).

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

307. Madison’s redirector file is also based on one or more 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 at [0025] (The playlist server “dynamically generat[es] a playlist metafile” (e.g., ASX, RAM, SMIL, and RPM files) “to be provided to the end-user’s windows media player”). The playlist format is specified in the CM Database. Ex-1051 at [0070].

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

308. Madison's redirector file is based on user characteristics. Madison teaches including an "ad tag" in the CM Database's "Streams2" table, which "specifie[s] where an advertisement is to be inserted." Ex-1051 at [0032]. A POSITA would understand that the redirector file could contain references to advertisements, since an advertisement is also an item of content sharing the same characteristics identified, such as stream format, title, author, URL prefix, bit rate, file name, and duration, for example.

309. To the extent 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 above in Section XI.D.1.

310. Wolfe teaches providing programmed media content bundled with advertisements "tailored to the individual." Ex-1044 at 1:51-60. Wolfe teaches a "subscriber profile database" that "contains the actual profiles of the individual subscribers..., specifying for each subscriber criteria as, for example, 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. *Id.* at 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.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

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.

311. Thus, in my opinion, element [39.c] is met by Madison combined with Wolfe, including every sub-element described below.

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

312. Madison’s redirector file includes a list of URLs containing stream filenames that identify the files. Ex-1051 at [0109] (“filename.asf” in exemplary URL). The filenames identify portions of the requested media (“stream1,” “stream2,” and “stream3”), as shown below. Ex-1051 at [0110].

```
<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>
```

313. Thus, in my opinion, element [39.c.1] is met by Madison.

(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

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

of the at least one portion of the requested media,
and”

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

315. Thus, in my opinion, element [39.c.2] is met by Madison.

(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;”

316. Madison’s playlist server dynamically generates the redirector file in formats including ASX. Ex-1051 at [0025] (also listing RAM, SMIL, RPM). A POSITA would understand that ASX files include instructions for obtaining media. Microsoft’s 1999 article “All About ASX Files” exemplifies a POSITA’s knowledge. 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 at 1. ASX playlists also include other types of instructions, including 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.* at 4. A POSITA would have understood ASX files used by Madison to include other information such as instructions to play files in a particular order or to dynamically inserting other files such as advertisements.

317. Madison further teaches including other instructions in the “Streams2” table, which is used when generating Madison’s redirector file. Ex-1051 at [0108]-[0109] (“the “makeplaylist” program... makes a call to the Streams2 Tables.”). The “Streams2” table contains entries pertaining to when to play advertisements (the “ad tag”), “start time,” and “bitrate,” among others. Ex-1051 at FIG. 2b. A POSITA would have understood to use these entries to place instructions into the redirector file.

318. Thus, in my opinion, element [39.c.3] is met by Madison.

- 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;”**

319. After Madison’s playlist server generates the redirector file including the information identified in elements [39.c], it is sent to the end user via the Internet. Ex-1051 at [0110] (“the ‘makeplaylist’ program... generates a redirector file to be passed to the media player stored on the end user’s computer.”), FIG. 1.

320. Thus, in my opinion, element [39.d] is met by Madison.

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”

321. Madison teaches inserting advertisements into the redirector file. Ex-1051 at [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 at 5:26-44. Accordingly, a POSITA would have been motivated to combine Wolfe’s teaching of tallying accounts and calculating royalty fees to Madison’s system.

322. Because Wolfe aims to provide media to subscribers without charge by “bundling” media with “advertisement copy” (Ex-1044 at 1:51-60), the “royalty fees payable to the owners of the music” necessarily come from advertising revenue (Ex-1044 at 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.

323. Thus, in my opinion, element [39.e] is met by Madison combined with Wolfe.

- 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.”**

324. As shown in Wolfe’s Figure 2, decisional block 70 “determine[s] whether it is necessary to take care of billing matters.” Ex-1044 at 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 stored in database 64 to subscribers,” and “prepar[es] billing data for advertisers.” *Id.* at 5:26-44. Accordingly, Wolfe teaches generating the claimed settlement record based on the revenue sharing rule, as that term is construed above.

325. Thus, in my opinion, element [39.f] is met by Madison combined with Wolfe.

* * * * *

326. In my opinion, Madison combined with Wolfe thus renders obvious claim 39.

3. Claim 45

- a) Preamble: “A method comprising:”**

327. As shown below, claim 45’s preamble is identical to claim 39’s preamble. The teachings previously identified for claim 39’s preamble also teach claim 45’s preamble.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

Claim 39	Claim 45
A method comprising:	A method comprising:

328. Thus, in my opinion, element claim 45's preamble is met by Madison.

- 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,”**

329. As shown below, element [45.a] is identical to element [39.a]. The teachings previously identified for element [39.a] also teach element [45.a].

Claim 39	Claim 45
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	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

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

requested media using at least one resource other than the at least one computing device;	requested media using at least one resource other than the at least one computing device,
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330. Thus, in my opinion, element [45.a] is met by Madison.

- 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;”**

331. As shown below, element [45.b] is similar to element [39.e]. The teachings previously identified for element [39.e] also teach most of element [45.b].

Claim 39	Claim 45
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	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;

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

332. Element [45.b], however, additionally requires 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 royalty fees associated with the music. Ex-1044 at 5:26-44.

333. Thus, in my opinion, element [45.b] is met by Madison combined with Wolfe.

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;”

334. As shown below, element [45.c] is identical to element [39.b], except that element [39.b] includes additional limitations (“in accordance with at least one program”) that are not present in element [45.c]. The teachings previously identified for element [39.b] also teach element [45.c].

Claim 39	Claim 45
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;	identifying, at the at least one computing device, whether the requested media is available for streaming to the at least one communication device;

335. Thus, in my opinion, element [45.c] is met by Madison.

- 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;”**

336. Madison teaches that the content owner may provide information about its content to a “Content Management (CM) Database” that “includes several logically discrete tables.” Ex-1051 at [0028]. Among these tables is “the CM Assets Table,” which includes records about an item of streaming content like “the platform to which the content relates” and “the expiration date (if any) of the content,” among others. Ex-1051 at [0031]. These are rules for providing streaming—for example, the “expiration date” dictates that expired content will not be streamed.

337. Wolfe similarly teaches rules for providing streaming. Wolfe’s subscriber profiles specify characteristics such as “age, demographic data, education, sex, ethnic background, and others.” Ex-1044 at 4:12-17. The advertiser specifies rules governing the distribution of the 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.* at 4:1-6. *See also id.* at 4:50-55. Although Wolfe focuses on advertising content, it would have been obvious to a POSITA that the same rules apply to the stored media content in Wolfe and, by extension, the stored video content in Madison. *See* Ex-1044 at 3:40-47 (“musical material and advertisements transmitted may vary as a function of the information contained in the dossiers of the subscribers.”).

338. Thus, in my opinion, element [45.d] is met by Madison alone, or alternatively, combined with Wolfe.

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;”

339. As discussed for element [45.d], Madison, or alternatively Madison combined with Wolfe, teaches processing the rules to determine which content to provide to the consumer. In Madison, the processing would determine the files to be included in the redirector sent to the end user. 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.

340. Thus, in my opinion, element [45.e] is met by Madison alone, or alternatively, combined with Wolfe.

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

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

least one characteristic associated with a user of the communication device,”

341. As shown below, element [45.f] is similar to element [39.c], except that element [39.c] recites generating “based on the at least one program,” whereas element [45.f] recites generating “based on the at least one rule.” The teachings previously identified for element [39.c] also teach most of element [45.f].

Claim 39	Claim 45
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,	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,

342. As for the additional limitation, generating “based on the at least one rule,” Madison combined with Wolfe renders obvious using a rule to select media for inclusion in the redirector file as discussed for elements [45.d] and [45.e]. Thus, the redirector file is “generated” based on the rule.

343. Thus, in my opinion, element [45.f] is met by Madison combined with Wolfe, including every sub-element described below.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

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

344. As shown below, element [45.f.1] is identical to element [39.c.1].

The teachings previously identified for element [39.c.1] also teach element [45.f.1].

Claim 39	Claim 45
(i) at least one list identifying at least a portion of the requested media,	(i) at least one list identifying at least a portion of the requested media,

345. Thus, in my opinion, element [45.f.1] is met by Madison.

- (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”

346. As shown below, element [45.f.2] is identical to element [39.c.2].

The teachings previously identified for element [39.c.2] also teach element [45.f.2].

Claim 39	Claim 45
(ii) at least one identification of the at least one resource other than the at least one computing device available to	(ii) at least one identification of the at least one resource other than the at least one computing device available to

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

facilitate streaming of the at least one portion of the requested media, and	facilitate streaming of the at least one portion of the requested media, and
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347. Thus, in my opinion, element [45.f.2] is met by Madison.

(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;”

348. As shown below, element [45.f.3] is identical to element [39.c.3].

The teachings previously identified for element [39.c.3] also teach element [45.f.3].

Claim 39	Claim 45
(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;	(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;

349. Thus, in my opinion, element [45.f.3] is met by Madison.

***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**

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

communication device from the at least one computing device via the communication network; and”

350. As shown below, element [45.g] 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 the list, identification, and instructions are transmitted to the communication device. The teachings previously identified for element [39.d] also teach element [45.g] because they explain that the response is sent from the web server module (the computing device) to the user terminal (the communication device).

Claim 39	Claim 45
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;	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

351. Thus, in my opinion, element [45.g] is met by Madison.

i) Element [45.h]: “producing at least one settlement record reflecting a sharing of the at least the

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

percentage of revenue generated by streaming the at least the portion of the requested media.”

352. As shown below, element [45.h] is substantively similar to element [39.f], despite different wording. The teachings previously identified for element [39.f] also teach element [45.h].

Claim 39	Claim 45
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.	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.

353. First, element [45.h] claims “producing” a settlement record, whereas element [39.f] claims “generating” one. Wolfe’s “program” that “tallies accounts, listing the frequency of play and transmission of music and data stored in database 64 to subscribers,” and produces records just as it generates them. Ex-1044 at 5:26-44.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

354. Second, element [45.h] claims a settlement record “reflecting a sharing,” whereas element [39.f] claims a settlement record “based on the at least one revenue sharing rule for sharing between the at least two parties.” Wolfe’s teachings are relevant for both: the settlement record discussed for element [39.f] is based on a rule requiring sharing between two parties, and therefore “reflect[s]” the sharing.

355. Thus, in my opinion, element [45.h] is met by Madison combined with Wolfe.

* * * * *

356. In my opinion, Madison combined with Wolfe thus renders obvious claim 45. Due to significant overlap between the language of claim 45 and claim 39, much of my analysis for claim 45 has involved references back to claim 39. In coming to the conclusion that claim 45 is rendered obvious by the prior art, I have considered the claim as a whole.

4. *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.”

357. 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 at [0100]

358. Madison also teaches a viewing rule identifying acceptable viewers. Madison teaches that the client (the entity uploading media) can provide “an indication as to whether or not the [uploaded] file is secure” and “an alphanumeric security string for use in accessing the file if it is identified as being secure.” Ex-1051 at [0078]-[0079].

359. In my opinion, Madison combined with Wolfe thus renders obvious claim 52.

5. Claim 68

a) Preamble: “A method comprising:”

360. As shown below, claim 68’s preamble is identical to claim 39’s preamble. The teachings previously identified for claim 39’s preamble also teach claim 45’s preamble.

Claim 39	Claim 68
A method comprising:	A method comprising:

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

361. Thus, in my opinion, claim 68's preamble is met by Madison.

- 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,”**

362. As shown below, element [68.a] is identical to element [39.a]. The teachings previously identified for element [39.a] also teach element [68.a].

Claim 39	Claim 68
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;	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,

363. Thus, in my opinion, element [68.a] is met by Madison.

- 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;”**

364. As shown below, element [68.b] is identical to element [45.b], except that element [68.b] adds the words “is further.” This does not change how a POSITA would understand the element, and the teachings previously identified for element [45.b] also teach element [68.b].

Claim 45	Claim 68
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;	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;

365. Thus, in my opinion, element [68.b] is met by Madison combined with Wolfe.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

- 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;”**

366. As shown below, element [68.c] is identical to element [39.b], except that element [39.b] includes additional limitations (“in accordance with at least one program”) that are not present in element [68.c]. The teachings previously identified for element [39.b] also teach element [68.c].

Claim 39	Claim 68
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;	identifying, at the at least one computing device, whether the requested media is available for streaming to the at least one communication device;

367. Thus, in my opinion, element [68.c] is met by Madison.

- 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;”**

368. As shown below, element [68.d] is identical to element [45.d]. The teachings previously identified for element [45.d] also teach element [68.d].

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

Claim 45	Claim 68
identifying, at the at least one computing device, at least one rule for providing a streaming service associated with the requested media;	identifying, at the at least one computing device, at least one rule for providing a streaming service associated with the requested media;

369. Thus, in my opinion, element [45.d] is met by Madison alone, or alternatively, combined with Wolfe.

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;”

370. As shown below, element [68.e] is identical to element [45.e]. The teachings previously identified for element [45.e] also teach element [68.e].

Claim 45	Claim 68
processing the at least one rule from among a plurality of other rules for providing other streaming service associated with other media;	processing the at least one rule from among a plurality of other rules for providing other streaming service associated with other media;

371. Thus, in my opinion, element [68.e] is met by Madison alone, or alternatively, combined with Wolfe.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

- 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,”**

372. As shown below, element [68.f] is identical to element [39.c], except that element [39.c] includes additional limitations (“the at least one program”) not present in element [68.f]. The teachings previously identified for element [39.c] also teach element [68.f].

Claim 39	Claim 68
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,	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,

373. Thus, in my opinion, element [68.f] is met by Madison combined with Wolfe, including every sub-element described below.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

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

374. As shown below, element [68.f.1] is identical to element [39.c.1].

The teachings previously identified for element [39.c.1] also teach element [68.f.1].

Claim 39	Claim 68
(i) at least one list identifying at least a portion of the requested media,	(i) at least one list identifying at least a portion of the requested media,

375. Thus, in my opinion, element [68.f.1] is met by Madison.

- (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”

376. As shown below, element [68.f.2] is identical to element [39.c.2].

The teachings previously identified for element [39.c.2] also teach element [68.f.2].

Claim 39	Claim 68
(ii) at least one identification of the at least one resource other than the at least one computing device available to	(ii) at least one identification of the at least one resource other than the at least one computing device available to

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

facilitate streaming of the at least one portion of the requested media, and	facilitate streaming of the at least one portion of the requested media, and
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377. Thus, in my opinion, element [68.f.2] is met by Madison.

(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;”

378. As shown below, element [68.f.3] is identical to element [39.c.3].

The teachings previously identified for element [39.c.3] also teach element [68.f.3].

Claim 39	Claim 68
(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;	(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;

379. Thus, in my opinion, element [68.f.3] is met by Madison.

***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**

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

communication device from the at least one computing device via the communication network; and”

380. As shown below, element [68.g] is nearly identical to element [45.g], except that element [68.g] says “the at least one identification,” whereas element [45.g] says “the least one identification.” This difference appears to be a mere drafting error (a typo omitting the word “at”) in claim 45. The teachings previously identified for element [45.g] also teach element [68.g].

Claim 45	Claim 68
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	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

381. Thus, in my opinion, element [68.g] is met by Madison.

- 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**

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

generated by streaming the at least the portion of the requested media.”

382. As shown below, element [68.h] is substantively similar to element [39.f], despite different wording. The teachings previously identified for element [39.f] also teach element [68.h].

Claim 39	Claim 68
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.	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.

383. First, element [39.f] specifically requires sharing between “the at least two parties,” whereas element [68.h] merely requires “sharing.” The teachings cited for element [39.f], which show sharing between at least two parties, also show sharing.

384. Second, element [68.h]’s settlement record “reflect[s]” sharing, whereas element [39.f]’s record is “based on” a sharing rule. Wolfe’s teachings

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

are relevant for both: the settlement record discussed for element [39.f] is based on a rule requiring sharing between two parties, and therefore “reflect[s]” the sharing.

385. Thus, in my opinion, element [68.h] is met by Madison combined with Wolfe.

* * * * *

386. In my opinion, Madison combined with Wolfe thus renders obvious claim 68. Due to significant overlap between the language of claim 68 and claims 39 and 45, much of my analysis for claim 68 has involved references back to claims 39 and 45. In coming to the conclusion that claim 68 is rendered obvious by the prior art, I have considered the claim as a whole.

6. Claim 98

a) Preamble: “A media streaming management method comprising:”

387. Madison teaches a “method and system for providing digital content via the Internet” and specifically its “method and system for allowing clients to upload, manage, and deliver streaming media content via the Internet” teaches the preamble. Ex-1051 at [0003]. To the extent the preamble is limiting, Madison teaches it.

388. Thus, in my opinion, claim 98’s preamble is met by Madison.

b) Element [98.a]: “receiving, via a communication network by at least one computing device, a request from a communication device to receive streamed

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

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,”

389. As shown below, element [98.a] is nearly identical to element [39.a], except that element [98.a] specifies that the requested media is “streamed media.” Madison teaches that the requested media is streamed media. Ex-1051 at [0003]. The teachings previously identified for element [39.a] also teach the remaining limitations of element [98.a].

Claim 39	Claim 98
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	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

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

resource other than the at least one computing device;	using at least one resource other than the at least one computing device,
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390. Thus, in my opinion, element [98.a] is met by Madison.

- 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;”**

391. As shown below, element [98.b] is nearly identical to element [45.b], except that element [98.b] adds the words “wherein” and “is.” The teachings previously identified for element [45.b] also teach element [98.b].

Claim 45	Claim 98
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;	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;

392. Thus, in my opinion, element [98.b] is met by Madison combined with Wolfe.

- 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:”**

393. 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 at [0003], [0020]-[0021], [0106]-[0107], [0109]-[0110].

394. Thus, in my opinion, element [98.c] is met by Madison combined with Wolfe, including every sub-element described below.

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

395. As shown below, 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 identifies portions of requested media. *See* Ex-1051 at [0109].

Claim 39	Claim 98
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Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

(i) at least one list identifying at least a portion of the requested media,	(i) at least one identification of the at least one portion of the requested media,
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396. Thus, in my opinion, element [98.c.1] is met by Madison.

- (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”

397. As shown below, element [98.c.2] is identical to element [39.c.2].

The teachings previously identified for element [39.c.2] also teach element [98.c.2].

Claim 39	Claim 98
(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	(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

398. Thus, in my opinion, element [98.c.2] is met by Madison.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

- (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”

399. As shown below, element [98.c.3] is identical to element [39.c.3].

The teachings previously identified for element [39.c.3] also teach element [98.c.3].

Claim 39	Claim 98
(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;	(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

400. Thus, in my opinion, element [98.c.3] is met by Madison.

- 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.”**

401. As shown below, element [98.d] is substantively similar to element [39.f], despite different wording. The teachings previously identified for element [39.f] also teach element [98.d].

Claim 39	Claim 98
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Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

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.	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.
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402. First, element [98.d] claims “producing” a settlement record, whereas element [39.f] claims “generating” one. Wolfe’s “program” that “tallies accounts, listing the frequency of play and transmission of music and data stored in database 64 to subscribers,” and produces records just as it generates them. Ex-1044 at 5:26-44.

403. Second, element [98.d] claims a settlement record “reflecting a sharing,” whereas element [39.f] claims a settlement record “based on the at least one revenue sharing rule for sharing between the at least two parties.” Wolfe’s teachings are relevant for both: the settlement record discussed for element [39.f] is based on a rule requiring sharing between two parties, and therefore “reflect[s]” the sharing.

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

404. Thus, in my opinion, element [98.d] is met by Madison combined with Wolfe.

* * * * *

405. In my opinion, Madison combined with Wolfe thus renders obvious claim 98. Due to significant overlap between the language of claim 98 and claims 39 and 45, much of my analysis for claim 98 has involved references back to claims 39 and 45. In coming to the conclusion that claim 98 is rendered obvious by the prior art, I have considered the claim as a whole.

7. ***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.”***

406. The dependent limitation of claim 99 is substantively identical to element [98.c], except that claim 99 requires a “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 at 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 at 7:28-30.

407. In my opinion, Madison combined with Wolfe thus renders obvious claim 99.

8. ***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.”***

408. Madison teaches generating the redirector file based on the geographic location of the user. Madison’s redirector file is generated using the “Stream Servers Table 230 in the CM database 118,” 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 at [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 the [end users] 104 likely to access the client’s content are located.” Ex-1051 at [0030].

409. 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 at [0030]. For example, if the “makeplaylist” program located two media

Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh

servers having the requested content, a POSITA would have designed the program to select the media server closer to the user, other factors being equal.

410. In addition, 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 at 4:13-18; *see also* claim 99; elements [39.c] and [98.c]; Ex-1044 at 1:51-60, 2:12-17, 4:50-55, 7:28-30. Wolfe’s teachings, combined with Madison, also render this claim obvious.

411. In my opinion, Madison combined with Wolfe thus renders obvious claim 100.

9. *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.”*

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

413. In my opinion, Madison combined with Wolfe thus renders obvious claim 101.

- 10. 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.”**

414. 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 at [0025], [0111], [0070]. Madison also teaches generating and transmitting the redirector file based on a protocol. Ex-1051 at [0109]-[0110] (“mms://”).

415. In my opinion, Madison combined with Wolfe thus renders obvious claim 103.

- 11. 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.”**

416. Madison teaches generating the redirector file based on rules specifying a bit rate, a sequence, and a format of the media. 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 at [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 at [0109].

417. 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 many other fields explicitly listed in Madison’s Streams2 Table. Like other fields, frame rate is an intrinsic media quality, and including it in the Streams2 Table would be a simple matter for a POSITA.

418. In my opinion, Madison combined with Wolfe thus renders obvious claim 105.

12. 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.”

419. As discussed in 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 at [0025], [0108]-[0109], FIG. 2b.

420. In my opinion, Madison combined with Wolfe thus renders obvious claim 111.

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

421. Madison teaches streaming video. Ex-1051 at [0031] (“content is audio and or video”).

422. In my opinion, Madison combined with Wolfe thus renders obvious claim 115.

14. *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.”*

423. Madison’s redirector file identifies multiple portions of requested media. *See* Ex-1051 at [0110].

424. In my opinion, Madison combined with Wolfe thus renders obvious claim 117.

XII. Conclusion

425. In signing this declaration, I recognize that it will be filed as evidence in a contested case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I also recognize that I may be subject to cross-

***Inter Partes Review of U.S. Patent No. 8,825,887
Declaration of Henry Houh***

examination in the case and that cross-examination will take place within the United States. If cross-examination is required of me, I will appear for cross-examination within the United States during the time allotted for cross-examination.

426. I reserve the right to supplement my opinions in the future to respond to any arguments that the Patent Owner raises and to take into account new information as it becomes available to me.

427. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Respectfully submitted,

A handwritten signature in cursive script that reads "Henry Houh".

Henry Houh

Date: 12/10/2020