

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Stingray Group, Inc.
Petitioner

v.

Dr. Edwin A. Hernandez, Inc.
Patent Owner

Case IPR2025-00349

U.S. Patent No. 10,123,074

**SUPPLEMENTAL DECLARATION OF DR. EDWIN A. HERNANDEZ-
MONDRAGON**

TABLE OF CONTENTS

I.	INTRODUCTION.....	4
II.	QUALIFICATIONS	7
III.	LEGAL UNDERSTANDING	15
	Level of Ordinary Skill in the Art	16
	Anticipation.....	17
	Inherency.....	19
	Obviousness	19
IV.	SUMMARY OF OPINIONS	24
V.	PERSON OF ORDINARY SKILL IN THE ART	31
VI.	OVERVIEW OF THE '074 PATENT	31
	A. Separating Rendering, Obtaining, and Retrieving Allows Overlapping of Media Streams	33
	B. The MediaPlug.....	35
	C. Playlists and MIME Types.....	36
	D. Video Encoding and Multimedia Containers (Encapsulation)	37
VII.	CLAIM CONSTRUCTION	38
	E. Content Provider	39
	F. “Obtaining content corresponding to the plurality of multimedia items from at least one source”.....	39
	G. “One media Stream for Playback”	39
	H. Web Page	39
VIII.	PATENTABILITY ANALYSIS FOR CHALLENGED CLAIMS	40
	a. Ground 1 Avellan for Claims 1-6, 8, 9,12-15, 17-18, and 20.....	41

1.	Ground 2 –Avellan with Durante Claim 5	74
2.	Ground 3 - Avellan and Ma for Claim 7.....	76
5.	Ground 4 - Avellan with Suzuki for Claim 7.....	76
6.	Ground 5 – Avellan with Claim 10, 11, and 21 for Avellan and Wannamaker	78
7.	Ground 6 – Avellan in view of Heikens for Claim 16.....	86
8.	Ground 7 – Avellan in view of Matthews for Claim 19	87
9.	Ground 8 – Avellan in view of Wilsher for Claim 20	90
10.	Ground 9 – Avellan in view of General Knowledge for Claim 20.....	91
IX.	CONCLUSION	92
X.	CERTIFICATION.....	92

I. INTRODUCTION

[01] My name is Dr. Edwin A. Hernandez-Mondragon. I understand that I am submitting a declaration for my own patent. I am offering technical opinions in connection with the *Inter Partes* Review (“IPR”) proceeding in the United States Patent and Trademark Office for U.S. Patent No. 10,123,074 (“the ’074 Patent”), and I have reviewed the references listed in Petitioner’s Exhibit List. I make this declaration based on my personal knowledge. I am over the age of 21 and am competent to make this declaration.

[02] The statements herein include my opinions and the bases for those opinions, which relate to at least the following documents and references of the pending IPR Petition, which I have reviewed and considered:

- U.S. Patent No. 10,123,074 (Ex. 1001)
- Claim Construction Briefs filed as part of S.D. of Florida litigation (EX2052)
- Deposition of Mr. Lipoff (EX2053, EX2054, EX2055)
- Ex.1003 and Petition for the ‘074 patent
- Exhibits referenced by Lipoff:

TABLE OF EXHIBITS

Ex-No.	DESCRIPTION
Ex-1001	The '074 Patent.
Ex-1002	This Declaration
Ex-1003	U.S. Patent No. 8,954,600 to Avellan, et al. ("Avellan"), which was filed on March 2, 2012.
Ex-1004	U.S. Patent No. 8,819,043 to Durante, et al. ("Durante"), which was filed on November 9, 2010.
Ex-1005	U.S. Patent No. 9,635,075 to Ma, et al. ("Ma"), which was filed on March 8, 2010.
Ex-1006	U.S. Patent No. 6,463,445 to Suzuki, et al. ("Suzuki"), which was filed on September 30, 1999.
Ex-1007	U.S. Patent Application Publication No. 2004/0031052 to Wannamaker, et al. ("Wannamaker"), which was published on February 12, 2004.
Ex-1008	U.S. Patent No. 7,778,279 to Heikens, et al. ("Heikens"), which was filed on June 5, 2007.
Ex-1009	U.S. Patent No. 9,264,750 to Matthews, et al. ("Matthews"), which was filed on December 23, 2010.
Ex-1010	U.S. Patent No. 9,240,966 to Wilsher, et al. ("Wilsher"), which was filed on May 8, 2014.
Ex-1011	Prosecution History of the '074 Patent.

And,

Table 2. Additional Exhibits Considered.

Exhibit No.	Description
EX2040	MPEG Handbook (Book Segment)
EX2041	Flash ActionScript (Book)
EX2042	H.264 and MPEG-4 A Video Compression, Video Encoding Multimedia (Book)
EX2043	War of Mobile Browsers (Dr. Edwin Hernandez' Paper, IEEE Pervasive Computing)

EX2044	Motorola OM1000 Manual
EX2045	HTML5 Black Book
EX2046	The Linux Programming Interface
EX2047	Linux Man Page for Errors
EX2048	RFC2326 – Real Time Streaming Protocol
EX2049	I-Node POSIX Paper
EX2050	Cloud Computing Virtualization a Comprehensive Survey
EX2051	CV of Dr. Edwin A. Hernandez – June 2025
EX2052	Case 1:24-cv-21226-RAR Document 188
EX2053	Stuart Lipoff Deposition Transcript on September 2 nd , 2025
EX2054	Exhibit #3 Presented to Stuart Lipoff
EX2055	Stuart Lipoff Deposition Transcript on September 3 rd
EX2056	RFC8216 – HTTP Live Streaming
EX2057	Containers and Cloud from LXC to Docker
EX2058	Avellan’s Patent – File Wrapper
EX2059	Motorola OM1000 Pamphlet
EX2060	Analysis of Dalvik-VM Publication
EX2061	Liberate Connect Server
EX2062	Liberate Document TV Navigator
EX2063	RFC2112 – MIME Types

[03] Although I am being not being compensated for my regular hourly rate, I do not count with resources to pay for expert services or attorneys fees that range in \$200K to \$250K per case, for the IPRs filed against me as the owner of the patents. Hence, I am submitting this declaration to respond to petitioner and the institution that followed.

[04] I am the Patent Owner of the '074 Patent and found of EGLA CORP, a corporation owned by myself, and my elder parents, Dr. Alcides Hernandez and Mrs. Reina Gladys Hernandez. I had a verbal licensing agreement with my parents which the PTAB court requested to memorialize in written form which was submitted to this court and submitted by Robert Drolet.

II. QUALIFICATIONS

[05] My general qualifications can be found in my curriculum vitae attached as EX2051. It includes my educational and professional background, published books, articles, publications, public lectures and conference proceedings. One section details my assignments testifying at depositions and trial as an expert witness.

[06] I am the named inventor of the '074 Patent.

[07] I am an owner and founder of EGLA CORP, an intellectual property, engineering consulting, and technology startup accelerator incubator in the fields of

a) Wireless Communications, 4G and 5G, b) Cloud Computing and Media Streaming, and c) Health technologies.

[08] I have a Ph.D. in Computer Engineering in Mobile Computing in 2002, received a B.S. from Costa Rica Institute of Technology in Electronics Engineering, and received a M.S. in Electrical and Computer Engineering from the University of Florida.

[09] I am an expert consultant in the fields of cable television systems and broadcasting, multimedia streaming, mobile devices and systems, air-interface and Long-Term Evolution (LTE), cloud storage and data synchronization, wireless communications, block-chain technology, power management, personal area networking, and smart phones and wireless embedded software development.

[10] My experience in virtual machines, high-performance computing, and cloud systems started back around 1997 when I joined the "High Performance Computing and Simulation" lab at the University of Florida, before virtualization and virtual machines became popular. I worked on Virtual Inter-face Architectures (VIA) and other concepts of distributing computing found in virtualized environment and cloud systems. I also worked with Java virtual machines from around 1999, as well as other virtual machines such as J2ME, when I joined the "Harris Mobile Computing" lab at the University of Florida around 2000.

[11] My experience with data centers, routers, servers, and small to large IT deployments started back in 1995 when I founded COMPUNET, an Internet Service Provider and hosting company located in Honduras. I was the owner and lead engineer from 1997 to about 2009. While at COMPUNET, I was a lead developer working on authentication services, security services, web services, and net-working configuration services, and became an expert in networking, configuring Cisco Routers. Among other tasks I implemented a TACACS+ client for authentication of PPP/SLIP Accounts for a dial-up system in 1997-1998 that allowed authentication from a Cisco Router with dial-up to a server with Linux user accounts.

[12] I also worked for Microsoft from around 2001 to 2003 as a Technical Program Manager. In that position, I was responsible for driving architecture, design, test automation, and security analysis for Bluetooth Personal Area Networking (PAN). I also drove testing over networking protocols, such as IPv4 networks and IPv6 networks, including early versions of 802.11b and candidates in the 2.4GHz bands that uses Frequency Hopping Spread spectrum.

[13] As part of my PhD, I became an expert in RF system simulation, including propagation models, and selection of appropriate modulation techniques based on SNR (Signal to Noise Ratios) and other parameters experimented using 802.11b technologies and SISO Antennas. I was a teaching assistant and researched mobile virtual machines and other virtualized environments.

[14] I also worked for Motorola, Inc. from 2003 to 2010 as a Principal Staff Software Engineer. In that position, I was responsible for application development for Google and Android platforms. I participated in kernel-level prototyping, data support, and digital rights management (DRM), and extensively used QEMU and other emulators to create virtual machines for mobile phones.

[15] I have run my own IT environments and have managed Windows Network systems since Windows NT existed. I was trained to configure, install, program routers, Linux servers, firewalls, Domain Controllers, and all server-based infrastructure deployed in a server farm back in 1996 when the Internet was becoming generally used.

[16] I started using new technologies and updated virtualized environments as early as 2011 as part of the launch of my multimedia products. I ran a server virtualized cloud from a company called iWeb and FAU's Research Park Data Center, which I later migrated to a data center located in Equinix in Boca Raton, FL, and later migrated it again to my offices where I had a setup with 4 racks and over 25+ physical servers.

[17] I had many years of experience in mobile technologies, hotspots, computing systems, storage, sensors, and technologies Android, IOS, and other streaming TV technologies.

[18] As part of my streaming experience, I have worked several years in MEDIAMPLIFY, a streaming technology, including embedded technologies and systems for image processing, video transmission, video encoding, and other capturing & distribution of images and video files.

[19] My data center environment hosted several applications including a server that was called MEDIAMPLIFY. As part of the system, I used Gluster File System for virtualized disks, used Open Stack to process of migrating Virtual Machines from one server to another and migrated data to Amazon Web Service. This platform serviced several operators including SKY BRASIL for an application called "SKY TUNES" with 1000's of subscribers and provided access from that our cloud to several APIs used for metadata and streaming hosted by my own infrastructure and cloud-based platforms.

[20] Starting in 2010, I founded EGLA CORP, where my streaming platform evolved to become MEVIA applications and Cloud to Cable patents. MEVIA is a "software-as-a service" and a cloud-based platform that enables "MEVIA Music," which is currently in operation in several countries including Honduras.

[21] Additionally, in and around 2015, I assisted a company called, Cirrus Core Networks with their virtualized "Network Function Virtualization" and hosted in my data center their virtualized 4G infrastructure. I have worked on 3GPP protocols, including analyzing Wireshark traces with different RRC messages, hence creation

of message sequence diagrams, and other technologies including Evidence of Use (EOU) charts. Also, in years 2019 and 2020, I was a judge for the Mobile World Congress in Barcelona, Spain, reviewing projects in 4G and 5G RF, Infrastructure, Network Slicing, and other advanced techniques used by worldwide carriers.

[22] I am also a very experienced software engineer and have worked with code, not only as a developer but also conducting code reviews as an engineer and for legal matters as an expert witness in cases involving Sprint, NetApps, Magento, MediaTek, Qualcomm, and several other companies. Including programming languages and scripts in PHP, Java, Javascript, Graddle, VHDL, C/C++, Python, and C#. I am very familiar with several scripting languages, and am an avid user of Command Line Interfaces (CLI). My experience as a developer dates back to the 1990s when I was in high school and continues to date. Recently, I wrote a new encoder for my MEVIA Platform and live streaming, including minting of Non-Fungible Tokens (NFTs) and Cryptography, and more recently demonstrations using LSTM and Machine Learning technologies.

[23] In my career, I have audited and configured large and sensitive IT systems, including a full audit of a Windows-based cloud used by the institution in charge of keeping all title records for all land, homes and commercial buildings in Honduras. The platform included geographic databases for the entire country and many firewalls and routers. I was responsible for auditing Fortinet firewalls, Cisco

switches, and an on-premises computing system where those sensitive records were stored. Their platform was originally created and funded by the World Bank, which invested \$10 million in software for the platform.

[24] Additionally, in my research I have been involved aspects of network security, wireless communications, network and communications reliability, artificial intelligence, multimedia streaming, and software engineering.

[25] I am a named inventor on sixteen patents issued by the United States Patent and Trademark Office, including the following:

- a. U.S. Patent No. 7,564,810 - Method and System for Managing Power Consumption of a Network Interface Module in a Wireless Computing Device
- b. U.S. Patent No. 7,231,330 - Rapid Mobility Network Emulator Method and System
- c. U.S. Patent No. 7,697,508 - System, Apparatus, and Method for Proactive Allocation of Wireless Communication Resources
- d. U.S. Patent No. 8,213,417 - System, Apparatus, and Method for Proactive Allocation of Wireless Communication Resources
- e. U.S. Patent No. 7,269,388 - Bluetooth PAN Driver

- f. U.S. Patent No. 8,788,715 - Rules-based Network Selection
Across Multiple Media
- g. U.S. Patent No. 7,996,505 - Rules-based Network Selection
Across Multiple Media
- h. U.S. Patent No. 8,024,487 - Smart Scan for Bluetooth PAN
Services
- i. U.S. Patent No. 8,707,337 - Java-based Push to Talk
- j. U.S. Patent No. 7,331,793 - Magnetic Connector
- k. U.S. Patent No. 10,123,074, 10,524,002, 11,140,441 and
12,075,116 - Method, System, and Apparatus for Multimedia
Content Delivery to Cable TV and Satellite Operators
- l. US Pat. No. 11,441,773 System, Method, and Apparatus For
Virtualized Operations for Biohazard Waste Destruction with
Augmented Reality and Voice Commands
- m. US Pat. No. 12,346, 399. Method and System for Web
Interaction with Objects and Remote Display Technologies
- n. And, several pending applications.

[26] I have assisted several IPRs and provided testimony on handover patents for Pico Cells, LTE, IEEE 802.11 beamforming, Wearables, Bluetooth, and other wireless technologies that have been licensed by companies like Verizon Wireless. As part of my Incubator, for the past 6 years I have represented several startups and technologies in licensing agreements with partners and vendors. I have also opined in Federal court on damages and royalties for technology companies and assisted multiple economic experts in damages.

[27] When I was in my incubator, I reviewed over 50+ technologies and licensing of intellectual property to provide feedback and advice according to industry parameters during due diligence and capital raise.

[28] I am not an attorney and offer no legal opinions, but in my work, I have had experience studying and analyzing patents and patent claims from the perspective of a person skilled in the art, and I am a named inventor on several patents.

III. LEGAL UNDERSTANDING

[29] My understanding of the law regarding patent validity is based on my prior work on patents and patent matters and based on the information presented in this section. In formulating my opinions and conclusions in this case, I have been provided with an understanding of the prevailing principles of U.S. patent law that govern the issues of patent claim interpretation and validity. As a result, I understand the following principles of U.S. patent law and have applied these principles in

analyzing the allegations of invalidity of the claims presented in the IPR Petition and in forming my opinions.

[30] I understand that it is a basic principle of patent law that assessing the validity of a patent claim involves a two-step analysis. In the first step, the claim language must be properly construed to determine its scope and meaning. In the second step, the claim as properly construed must be compared to the alleged prior art to determine whether the claim is valid.

[31] As explained herein, my analysis of the validity of the '074 Patent will be undertaken from the perspective of what would have been known or understood by one of ordinary skill in the art relevant to the patent in question when the inventors of the patent conceived of and reduced the claimed inventions to practice. Whether any of the claims of the '074 Patent is anticipated or rendered obvious by systems and/or methods alleged by Petitioner to have been publicly disclosed, invented by another and/or in public use prior to the invention date is thus determined based on an understanding of a person of ordinary skill in the relevant art.

Level of Ordinary Skill in the Art

[32] The level of ordinary skill in the art is based on factors such as the educational level of the inventor, the educational level of those who work in the industry, and the sophistication of technology involved, in addition to the type of problems

encountered in the art, prior art solutions to those problems, and the rapidity with which innovations are made in the particular technology including software engineering practices..

Anticipation

[33] I understand that to anticipate a patent Claim under 35 U.S.C. § 102, a single asserted prior art reference must disclose each and every element of the claimed invention, either explicitly or inherently to a person of ordinary skill in the art. There must be no difference between the claimed invention and the disclosure of the alleged prior art reference as viewed from the perspective of the person of ordinary skill in the art.

[34] It is my understanding that a patent is anticipated under 35 U.S.C. § 102 if (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States. The priority of invention goes to the first party to reduce an invention to practice unless the other party can show that it was the first to conceive the invention and that it exercised reasonable diligence in later reducing that invention to practice. It is my understanding that for prior art to be known under § 102(a), it must be publicly

accessible and it must be sufficient to enable one with ordinary skill in the art to practice the invention. Public use under 35 U.S.C. § 102(b) includes any use of the claimed invention by a person other than the inventor who is under no limitation, restriction or obligation of frequency of use.

[35] It is my understanding that to establish anticipation under § 102(a) on the basis of a printed publication, a party must demonstrate where in the publication each and every limitation of the claimed invention is found. Thus, each and every limitation must be found either expressly or inherently in a single prior art reference. A limitation is inherent if it is necessarily present in the prior art. The identical invention must be shown in as complete detail as is contained in the claim.

[36] Furthermore, it is my understanding that a reference must clearly and unequivocally disclose the claimed invention or direct those skilled in the art to the claimed invention without any need for picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference.

[37] Similarly, it is my understanding that, under § 102(b), a device that is used in public or sold may render a patent invalid on the basis of anticipation only if the device includes every limitation of the later claimed invention.

[38] Also, I understand that in order for a reference to be an anticipating reference, it must describe the claimed subject matter with sufficient clarity to establish that

the subject matter existed and that its existence was recognized by persons of ordinary skill in the field of the invention.

Inherency

[39] I understand that in order to establish that an element of a claim is “inherent” in the disclosure of an asserted prior art reference, the extrinsic evidence (or the evidence outside the four corners of the asserted prior art reference) must make clear that the missing element is the inevitable outcome of the process and/or thing that is explicitly described in the asserted prior art reference and that it would be recognized as necessarily present by persons of ordinary skill in the relevant field. I understand inherency may not be established by mere probabilities or possibilities. In other words, the mere fact that a certain thing may result from a given set of circumstances is not sufficient.

Obviousness

[40] I understand that even though a prior art reference does not fully anticipate a claim of a patent, a claim may, nonetheless, be rendered obvious to one of ordinary skill in the art if the differences between the subject matter set forth in the patent claim and the prior art are such that the subject matter as a whole of the claim would have been obvious at the time the claimed invention was made. In addition, I understand that obviousness is a determination of law based on various underlying

determinations of fact. In particular, these underlying factual determinations include (1) the scope and content of the prior art; (2) the level of ordinary skill in the art at the time the claimed invention was made; (3) the differences between the claimed invention and the prior art; and (4) the extent of any secondary conditions of non-obviousness. I understand that if a claim element is completely missing from each of reference of a combination, the claim is not obvious in view of that combination.

[41] I understand that secondary considerations are any considerations other than the first three enumerated above that tend to show that the claimed subject matter would not have been obvious. Such evidence may include the following:

- **Commercial success**: An invention that is commercially successful is unlikely to have been obvious because it otherwise would have been invented by others earlier.
- **Copying**: Copying a solution, rather than inventing a different solution, shows that the patented solution would not have been obvious.
- **Long-standing problem or need**: A persistent problem or need in the art that went unresolved clearly implies that the solution could not have been obvious.
- **Prior failure**: The failure of others to come up with a solution shows that the solution could not have been obvious.

- **Licensing**: When industry players would rather take a license than try to come up with an alternative solution, those players acknowledge that the solution was not obvious.
- **Praise by others**: When those of ordinary skill, aficionados, and the defendants themselves praise the claimed invention on the merits of the invention it could not have been obvious.
- **Teaching away**: When those of ordinary skill in the art facing the same problem as the inventor looked in different directions than the inventor, and when following their lead would lead further away from the patented solution, that is a significant indication of non-obviousness. By the same token, when the charge in the “wrong” direction is led by those who are well-resourced, well placed, or of higher-than-average skill, it is an even stronger indication of non-obviousness when their teachings lead away.
- **Unexpected Results or Industry Skepticism**: When experts, aficionados, and the defendants themselves expressly or implicitly acknowledge that the claimed technology was unexpected or expressed skepticism in it, that is strong evidence that the improvements could not have been obvious.

[42] To ascertain the scope and content of the prior art, it is necessary to first examine the field of the inventor's endeavor and the particular problem with which the inventor was involved at the time the invention was made. Moreover, a determination of obviousness cannot be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the claimed invention. Instead, I understand that: in order to render a patent claim invalid as being obvious from a combination of references, there must be some evidence within the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination in a way that would produce the claimed invention. In addition, I understand that in order to find a patent claim invalid for obviousness, there must be a finding that each element in each limitation of the patent claim is disclosed or taught by the asserted combination of prior art references or elsewhere in the relevant prior art. I further understand that in making a combination, the principle of operation of a reference should not be changed and that the prior art cannot be rendered unsuitable for its intended purpose.

[43] I understand that a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. This is so because inventions in most, if not all, instances rely upon building blocks long since discovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known. I further understand that

most inventions arise from a combination of old elements and each element may often be found in the prior art. However, mere identification in the prior art of each element is insufficient to defeat the patentability of the combined subject matter as a whole. Rather, to establish a case of obviousness based on a combination of elements disclosed in the prior art, an articulation must be made on the basis by which it would have been obvious to make the claimed invention.

[44] I understand that in making combinations of references it is important to avoid hindsight and it can be important to find a reason to make a particular combination. Care must be taken to avoid the temptation to read into the prior art the teachings of the invention at issue and one must guard against slipping into the use of hindsight when considering the issue of obviousness.

[45] Particularly, one must avoid simply taking the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability – this is the essence of hindsight.

[46] I understand that when the prior art teaches away from combining certain known elements, the discovery of a successful means of combining them is more likely to be nonobvious, and evidence rebutting a case of obviousness can include evidence that the prior art teaches away from the claimed invention in any material respect. I understand a reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the

path set out in the reference, or would be led in a direction divergent from the path that was taken by the inventor. I understand that general skepticism of those in the art – not amounting to teaching away – is also relevant and persuasive evidence of nonobviousness. In effect, teaching away is a more pointed and probative form of skepticism expressed in the prior art. In either case, the presence of either of these indications gives insight into the question of obviousness.

[47] I understand a reference qualifies as prior art for an obviousness determination under §103 only when it is analogous to the claimed invention. Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.

IV. SUMMARY OF OPINIONS

[48] The Petition sets forth 9 grounds:

Ground	Cited Prior Art References	Basis	Claim(s) Challenged
1	Avellan	§102	1-6, 8, 9, 12-15, 17, 18, 20
2	Avellan in view of Durante	§103	5
3	Avellan in view of Ma	§103	6
4	Avellan in view of Suzuki	§103	7
5	Avellan in view of Wannamaker	§103	10, 11, 21
6	Avellan in view of Heikens	§103	16
7	Avellan in view of Matthews	§103	19
8	Avellan in view of Wilsher	§103	20
9	Avellan in view of the General Knowledge of a POSITA	§103	20

[49] Claims 1-21 are the challenged claims. Claims 1, 12, and 17 are independent claims the other claims are dependent.

[50] Mr. Lipoff testified that he relied on the petition as part of his analysis and did not conduct an independent analysis for all the claims (Declaration Pg. 144, lines 2-6, Pg. 116, lines 15-20, 23-25, Pg. 117, 1-8 and 19-23)

[51] Therefore, Lipoff *only* provided analysis in his declaration for some elements not all elements:

- a. Claim 1: Partial analysis on Element 1c and Element 1d,
- b. Claims 3, 5, 6, 7
- c. Claim 8
- d. Claims 10, 11, and 21
- e. Claim 12 – Claim 12a and 12b based on POSITA
- f. Claim 16
- g. Claim 19,
- h. Claim 20

[52] My analysis regarding Claims is done considering the Petition itself in combination with Lipoff declaration. Although, Mr. Lipoff testified that he did not analyze all the elements and used the Petition arguments instead (EX2053 114:1-6).

[53] In summary, Mr. Lipoff and Petition fails to show convincingly Ground 1 anticipates the '074 Patent.

[54] All Grounds rely on Avellan, Lipoff and Petition fails to show convincingly Ground 1 anticipates the '074 Patent.

[55] Avellan relies on “images” captured from “a web page,” The Petition claims shows that a Gateway server works with “image captured” from a web page, that Avellan turns into compressed files with the “Web to HD Video Protocol.” If a web page is captured from a “media web page”, such “CNN, a Live Stream, Youtube, etc,” Petitioner calls it a “media stream”

[56] Petitioner argues that the captured webpage also become a “one media stream for playback” and a “plurality of multimedia items.” The '002 patent teaches that “retrieving” and “obtaining” are separate from “rendering” hence are not the same. Claim 8 in the '074 Patent for example, shows that upon “detecting a change on a web page” simply retrieves the “web page again” using the already obtained “plurality of multimedia items” from a separate process.

[57] In contrast, Avellan can only capture images from a web page. If the web page has a video or audio, assuming holds a web player with an autoplays, function the webpage will be captured otherwise it won't. In contrast, the '002 Patent handles this gracefully by separating, web captured from "obtaining" multimedia items and media streams.

[58] By separating these efforts, the '002 specification teaches that "the rendered images from a web service can be used to create overlapping video" or "replace any video in the video feed file," or even "be used when no video at all is defined in the multimedia file, e.g. Audio-only file" (Ex1001, 7:6-11)

[59] Hence, the "rendered images" used as "User Interfaces" must be obtained separate from the "plurality of multimedia items" such that "rendered images from the web service" can be processed separately as overlapping any content on the screen (Ex1001, 7:6-11)

with HTML4/5 or any future HTML version. If a customizable UT is part of the configuration **518**, rendered images from a web service can be used to create overlapping video or replace any video in the video feed file. Likewise, this video or customized screen can be used when no video at all is defined in the multimedia file, e.g. Audio-only file. The

Ex1001, 7:6-11.

[60] Therefore, equating “screen captures” of a web page that shows a “video” or “audio” to be a “one media stream for playback” and a “plurality of multimedia items” is an error.

[61] Besides that, Avellan operates with “compressed video files” derived from several images captured from “web pages” that need to be decompressed for display or “may be immediately displayed (once decompressed at computer 104) (Ex1002, 7:57), as those files are accompanied by a “Tag file” *Id.* 5:49-52

[62] Moreover, Avellan cites an unknown protocol called “Web to HD Video Protocol” and Petitioner makes several assumptions just to match the claim language in the patented invention.

[63] Ground 2 for Claim 5 also fails as Avellan in view of Durante, as such combination requires changes “from Durante using standard databases into the “Images Captures” from a “Country Music TV” web page. Such combination needs undue experimentation, as Durante provides Metadata, and Avellan images web pages.. Hence, creating a music player that convert a live stream of “Country Music,” possibly adding an API, and integration with web pages with a combination a POSITA will not be motivated to combine.

[64] Ground 3 for Claim 6 fails as Avellan in view of Ma requires Ma’s identifiers to be connected with a website, but not so to the plurality of multimedia items, as

both terms are different. Hence, undue experimentation is required to adjust way for Ma to handle multimedia item, especially in how Avellan provides tag files for user interaction, and mapping, each imaged website identifier and user identification.

[65] Ground 4 for Claim 7 fails Avellan and Suzuki combination is exemplary on how to query a “video format,” here then the “Content provider” is the “recipient of media” that needs to be queried, when if it was the “provider of media” then there would no need to query any external source.

[66] Ground 5 for Claims 10, 11, and 21 are related to Avellan in view of Wannamaker. This combination fails as “Wannamaker” relies on “Server Transcoding,” of HTML into a proprietary format called CPML/MML. While Avellan captures images from a web page, such combination is simply not compatible, clearly two competing systems are in use. Wannamaker transcodes, while Avellan captures for the same web page. Now Avellan switches to be a “provider of media” Lipoff ¶100 mischaracterizes the process of rendering, is done by the “Renderer” as explained by Ex-1007 at [0258]-[0259]

[0258] Renderer

[0259] Most content requires rendering before it can be displayed on the set-top box. The renderer converts the content into a format compatible with the user's set-top box hardware. It does this by accepting URLs of HTML files that are stored locally, and then parsing and rendering the HTML to produce output image files (FMB) and output CPML or MML.

Ex-1007,[0258]-[0259]

[67] Here, Lipoff changes redefines the “one media stream” to be an “MPEG Transport Stream” however Wannamaker does not disclose an MPEG multiplexer as the process in Wannamaker is analog resulting in a QAM Upconverter. Again, Lipoff switches the content provider to be “provider of media”

[68] Ground 6 for Claim 16 relies on Avellan in view of Heikens, switches the position of the content provider, and cites the use of a “Broadcast Address” that is completely in necessary.

[69] Ground 7 for Claim 19 Avellan in view of Matthews, however as the one media stream is part of a web page, then only “image captures” at different times of a “web page” containing Mathew’s HTTP Live streams. In simple terms, receiving “video snippets” from a website with a live stream is less than ideal.

[70] Ground 8 for Claim 20 as Avellan in view of Whisler establishes the use several “URI” to “detect” a network failure and switch over. However, since for the Petition “one media stream for playback” is the same to a “web page,” does not consider that an error is also a corrupted file, a with a valid URL, “errors in javascript,” which are the errors considered in the claim. Switches content provider.

[71] Ground 9 for Claim 20 and Avellan in view of General Knowledge, again Redundancy of web pages does not solve errors when the error has propagated to multiple sites (e.g. corrupted multimedia file).

V. PERSON OF ORDINARY SKILL IN THE ART

[72] A POSITA with respect to the '074 Patent would have education, experience, and training commensurate with a person with a bachelor's degree in electrical engineering or computer science, and would have knowledge of remote desktop protocols, access controls, networking protocols, and communications, including TCP/IP-based standards, software design, distributed systems, and network equipment configuration. Based on my experience, education, and training, I have an understanding and knowledge of these capabilities and have been involved with these technologies myself.

VI. OVERVIEW OF THE '074 PATENT

[73] The '074 Patent describes a system and method for providing that uses web resources such as a "Web Page" or a "Web Service" to create "User Interfaces" using the web to be part of broadcast channels.

[74] The '074 Patent describes how by using a browser or a rendering engine, the rendered "web pages" or "Custom UI" images are saved at different intervals of time.

[75] Separately, a plurality of multimedia items is retrieved from the cloud or another web source. This multimedia content *is not part* of the "webpage" rendering process, and as a result a media stream is created to be used by a client's device, e.g. a Set Top Box, a Smart TV, or any other device.

[76] One novel aspect of the '074, is the introduction of the term “Custom UI” or “Custom User Interface.” The “Custom UI” is configurable via a particular “URL” pointed to a domain name or website, or what normally is called a web “link.” See *Id.* at 5:54-63

In some configurations a customizable user interface (UI) can be added to the output video MPEG Transport stream. 55
As such, if the “Custom UI” variable is then true and valid, 325, a link or URL 330 is loaded into the Mediaplug configuration that can be used when the video interface is created. The custom video interface can be created and fetched as needed or it can be created in real-time for a 60 particular channel or for all the channels. The custom user interface variable can be uniquely configured per channel in the Mediaplug. The mediaplug can also monitor 340 all of
'074 Patent at 5:54-63

[77] In the '074 patent in one embodiment discloses the use of a browser to retrieve the “Custom UI” from a web-page located at a particular “URL” or “Universal Resource Locator.” In other embodiments, the “Custom UI” is retrieved from a web-service with JSON or XML definitions.

[78] Consequently, the '074 patent teaches that when a “Custom UI” or “Custom User Interface” (See *Id.* 6:63-56 and 7:1-6) is in use, the URL is used as “input” to the rendering process and such rendering follows standard HTTP protocols and a web browser that captures screens and turns them into media streams using software tools such as FFMPEG.

[79] The '074 takes advantage is to use the web and cloud. The methods in the patent disclose a novel solution where traditional multimedia playlists and web pages did not operate before. This enriched environment mixes media streams for playback, web pages, and multimedia items. The media stream resulting is delivered to content providers in the same format for digital "Satellite" or "Cable TV" Multiplexer technology.

[80] Additionally, the '074 patent describes how multimedia items that are part of a "playlist" can be loaded in to a device, called the MediaPlug. The Mediaplug supports web protocols such as HTTP and "rsync" that are are used to obtain multimedia items securely (*Id.* at 4:3-12).

The cloud 101 service files can be accessible via the internet 105 and can be stored in a cloud-based file system or cluster file system (e.g. GlusterFS or Hadoop, Amazon S3). These files can be multimedia files that include, as non-limiting examples, MPEG-4 Video files with H.264 encoded video and AAC encoded audio or MPEG-layer 3 audio as well (MPEG2 Video could also be used). These files can be accessed using a secured transport protocol such as, but not limited to, SSL or a synchronization tool as "rsync," commonly found in Linux/MacOS environments. The com-

Id. at 4:3-12

A. Separating Rendering, Obtaining, and Retrieving Allows Overlapping of Media Streams

[81] Another novel aspect of the invention is that given the steps followed, web pages can be used to "overlap" over a media stream with videos, as indicated by the '074 patent at 7:4-6.

7

include JavaScript, CSS, and HTML content files that can be rendered using a browser using WebKit (e.g. PhantomJS or Safari) or any other browser-rendering engine compatible with HTML4/5 or any future HTML version. If a customizable UI is part of the configuration **518**, rendered images 5 from a web service can be used to create overlapping video or replace any video in the video feed file. Likewise, this video or customized screen can be used when no video at all is defined in the multimedia file, e.g. Audio-only file. The

'74 at 7:1-9

[82] Clearly, a web page on itself can contain a reference to a “video,” images, text, audio, etc.. However, the benefits of separating requests for media streams, multimedia items and a rendering of a web page is that such “rendered web page” can be positioned anywhere on the screen. The rendered web page can “overlap” a video from a different stream. As an example, a “stock ticker” is a web page, that can be overlapped over a “Bloomberg Video” stream, for example:

The original playlist video or feed is as follows:



Case IPR2025-00349
Patent No. 10,123,074

A web-page contains a news or stock ticker:



The result of using the '074 is a broadcast media stream with the “rendered web page” as shown here:



B. The MediaPlug

[83] As explained before, the methods and systems disclosed by the '074 patent are stored in the “MediaPlug” device (See *Id.* at FIG.1 Element 110 and FIG. 2).

[84] The '074 Mediaplug can be implemented in a server or set of servers configured to provide media streams to provide media streams to operators as they used to do via the satellite.

C. Playlists and MIME Types

[85] Further, the '074 patent teaches that such playlist is stored as part of an internal web server are processed in response to an HTTP Request where the web server changes the HTTP “header” information of the response to be announced to a requestor, e.g. a Web client that, a playlist is in use. As specified in the RFC2112 (EX2060)¹, the protocol provides a “MIME-like message” containing information on the request made.

[86] Several common mime types include “text/html”, “text/xml” and “image/png,” In the case of “text/html” and “text/xml” a browser retrieving such request will first “parse it” and then “process” all “tags” in XML and HTML. The browser then looks for additional links that will be “parsed” and rendered as the response HTML indicates, requiring multiple requests to download images, text, fonts, Javascript, or Ads (e.g. Google Ads)

[87] The 074 patent teaches that when the content is a multimedia playlist, the web server will return as “Content type”, or MIME Type: “audio/x-mpegurl” as shown in *Id.* at 6:22-27.

completed 415. At 420, the caching server can generate a “playlist file” of mime type “audio/x-mpegurl” which will be interpreted as a multimedia playlist file when requested.
25 Finally, as the playlist usually may not vary for a period of time until a new request is received, the playlist can be kept in the local memory caching service 425.

¹ <https://datatracker.ietf.org/doc/html/rfc2112>

[88] Such playlist includes a list of files encapsulated in some type of container which can be but not limited to: MPEG-TS and MPEG-4 Part 14 as shown in *Id.* at 6.8-10.

D. Video Encoding and Multimedia Containers (Encapsulation)

[89] Multimedia container formats MUST not be confused with a video encoding formats, as some containers can use certain encoders, as shown in the '074 patent at 6:3-8, some sample of video encoders include H.264 and audio encoders such as AC-3. Video and Audio Encoders use parameters such as: bitrates, screen resolutions, Group of Pictures, among many others.

[90] Therefore the '074 teaches that requesting the encapsulation "format" that includes encoded video and audio (See *Id.* at 6:39-40).

by the "Caching" unit. At step 505, encoding flags or input parameters can be received which may include GOP (Group
35 of Pictures) which is used by certain video encoders, resolution (e.g. 640×480) in pixels, bit rate in Kilobits per second, any encoding type of video (e.g. H.264), encoding type of audio (e.g. AC-3), duration of the video feed, etc. In addition, a "format" parameter can be received which refers
40 to the output format or encapsulation, MPEG TS or MPEG4. The caching unit encodes audio and video, and can use the disk space in the Mediaplug. Hence in 508 the method

Id. at 6:33-43

[91] The main reason why encapsulation and encoding are different is because, encapsulation is a much faster process than encoding.

[92] Therefore, a POSITA will know that the MPEG-4 specification includes **video codecs** in various screen resolutions such as: MPEG-4 Part 10 or H.264/AVC, MPEG-H Part 2, and others that define “**encoding profiles**” that are supported by “video encoders” including H.264, MPEG2Video, and “audio encoders” such as AC-3, or MP3.

[93] Hence, the ‘074 specification discloses a solution compatible with HTML4/-5 and modern-day browsers with multimedia items and broadcast systems in use by Cable TV Providers (e.g. Multicast at *Id.* 10:6-10) or Smart TV systems with HTTP Live Streaming (e.g. HTTP Server with HTTP Live Streaming at *Id.* 8:52-55)

[94] In summary, the ‘074 teaches to use of web-based user interface that is rendered by a browser and a separate retrieval of a plurality of multimedia items to be used in the media stream for broadcast, what this means is that the plurality of multimedia items that are used by the ‘074 Patent.

VII. CLAIM CONSTRUCTION

[95] I understand that claim construction begins with the language of the claims, and the words of a claim are generally given their ordinary and customary meaning, which is the meaning the term would have to a POSITA at the time of the invention. I understand that although the prosecution history often lacks the clarity of the specification and thus is less useful for claim construction purposes, it is a source of intrinsic evidence that can inform the meaning of the claim language by

demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be. I understand that while extrinsic evidence, such as expert testimony and dictionaries, may be useful in educating regarding the field of the invention or helping determine what a POSITA would understand claim terms to mean, extrinsic evidence in general is viewed as less reliable than intrinsic evidence.

E. Content Provider

[96] A “Content Provider” as the name says is an entity that receives content from multiple sources and generates at least “one media stream for playback”.

F. “Obtaining content corresponding to the plurality of multimedia items from at least one source”

[97] Under the plain and ordinary meaning, as one request to a source independently from “Rendering of a web-page”

G. “One media Stream for Playback”

[98] Under the plain and ordinary meaning, however a “ One Media Stream for Playback” is not a “web page”

H. Web Page

[99] Petitioner has already proposed in claim construction the term in District Court, and by no means includes equates a “media stream” is a “web page”

In criticizing the proposed constructions' reference to HTML, Plaintiffs conflate two different concepts from the Asserted Patents. Specifically, Plaintiffs argue that the specification "teaches customizing a User Interface that is designed using Hypertext Markup Language (e.g. HTML) *or a web service*," which the patents describe as using "XML (Extensible Markup Language) to respond to a custom UI request." See Dkt. 193 at 3 (emphasis added). As argued by Plaintiffs, "[b]ecause the specification teaches both HTML and XML markup language, Defendants' proposed construction would improperly exclude this preferred embodiment." *Id.*

However, the process of designing a custom HTML user interface (even if done using XML) is entirely distinct from the process of "rendering a web page by a browser" that is at issue.

at Dkt. 198, Pg. 4 of 16, Case 1:24-cv-21226-RAR

VIII. PATENTABILITY ANALYSIS FOR CHALLENGED CLAIMS

[100] It is my opinion that the references cited by Petitioner fail to disclose or each and every element recited in the challenged claims, and therefore fail to render obvious the challenged claims. It is further my opinion that it would not be obvious to POSITA to modify the references relied upon by Petitioner with the missing elements in such a way that would result in the system and methods recited in the claims of the '074 Patent.

[101] There are no "Anticipation" arguments disclosed by Petitioner.

[102] Petitioner list 9 grounds that will be analyzed herein.

a. Ground 1 Avellan for Claims 1-6, 8, 9,12-15, 17-18, and 20

[103] For at least the reasons presented below, I disagree, for the following reasons.

[104] First for Claim1, Petitioner points to the “content provider” as the “Red Arrow” elements that is shown at Lipoff ¶86 (EX1002) FIG. 1, but for Claims 12, and Claim 17 (and dependent claims), Petitioner switches and points to “Green Arrow” elements at *Id* ¶86 from Ex1002 FIG 1. Therefore, for some claims “the content provider” consumes content, for other claims “provides content” for itself.

[105] Second, Petitioner relies on Avellan that includes an inexistent “Web-to-HD Video Protocol” on Avellan without any evidence online on how that works. The conclusions are based on assumptions without foundation, contradictions on how it operates.

[106] Third, Avellan creates compressed video files that are decompressed at the client, forcing the content provider be the “laptops” not what Mr. Lipoff indicated in his Deposition as Exhibit #3.

[107] Fourth, Mr. Lipoff relied on the Petition, while the Petition makes reference to Lipoff declaration EX1002 in many cases, it is unclear whether the arguments used by Lipoff are conclusory and guided by counsel.

[108] I begin my analysis with the challenged Claim 1:

computer-implemented method comprising:

- a. receiving, from a content provider, a request for at least one media stream for playback on a broadcast media channel, the at least one media stream including a plurality of multimedia items;
- b. obtaining content corresponding to the plurality of multimedia items from at least one source offering the content in at least one first format;
- c. rendering a web page by a browser using the content;
- d. generating a temporal sequence of screen captures of the rendered web page illustrating dynamic changes in the content over a period of time;
- e. assembling the at least one media stream using the temporal sequence of screen captures; and
- f. providing the at least one media stream to the content provider for broadcast on the broadcast media channel.

[109] Claim 1 recites Element 1[a] “receiving, from a content provider, a request for at least one media stream for playback on a broadcast media channel, the at least one media stream including a plurality of multimedia items” requires that “one

media stream for playback” Avellan by no means has any media stream for playback, the only thing Avellan discloses is a compressed video file that needs to be uncompressed by the user’s computers (EX1003 at FIG 1 Element 104)

[110] Also, Element 1[b] recites “obtaining content corresponding to the plurality of multimedia items from at least one source offering the content in at least one first format.” This is part of a request to obtain “content,” is a separate request that is used for “Rendering a web page by a browser using the content.”

[111] This step is not obvious to be separated and apart, as explained earlier, by providing “multimedia content” retrieval, separate from the web page. The patent teaches that:

- a. Multimedia content can be replaced with the web page screen,
- b. Multimedia content can be overlapped with the web page screen,
- c. The web page screen can be overlapped with the multimedia content,

[112] Thus, the “web page” and the “content” must be present from steps 1[a] and 1[c].

[113] Therefore. Avellan does not disclose Element 1[a] and [b], as Avellan executes at best, all of its steps as part of their alleged “rendering of a web page” using the “*Web to HD Video Protocol*”

[114] Therefore, a POSITA will understand that rendering of a “web-page” starts by connecting a web-site, validating the content and then creating a visual representation of that content using web resources as images, and other multimedia referenced by the web page.

[115] It is important to know that a ”*media stream* “, more importantly a “*one media stream for playback*,” with an example to retrieve a “Jazz Channel.”

- a. *First*, a plurality of multimedia items corresponding to the “Jazz Channel is retrieved,”
- b. *Second*, obtaining step is followed by using the list as a reference and obtaining the “obtaining content corresponding to the plurality of multimedia items”

[116] Therefore, by no means Avellan can disclose Element 1[a], Element 1[b] and 1[c], as Avellan only provides an *image capture step* from a web page. In fact, Avellan creates a *compressed video format of the web page*, which is not “*a one media stream for playback*”

Avellan teaches Element 1e.

Following the screen capture process described above, Avellan teaches that it can then “compress the data into a compressed digital video format that can be sent to the user computer 104 for display in the browser 106.” Ex-1003 at 5:20-

[117] A *media stream for playback* is a media stream that follows a timed sequence or “streamed” ready for playback encoded for a particular bitrate, group of pictures, resolution, for video and audio. A *media stream* provides a sequence of video and audio frames that can be displayed without any need of decompression, as it is being *decoded* by a video and audio codec..

[118] Avellan cites that the “*Web to HD Video Protocol*” that is used for the image capturing See. EX1003 at 5:16-32 and briefly mentioned by Lipoff at ¶124 in EX1007 at IPR2025-00350. However, a review of “Avellan’s Patent Wrapper” provides no light on how this protocol works (See EX2058)

[119] There is not a single publication online that describes how “*Web to HD Video Protocol*” nor the Avellan disclosure presents a clear and concise explanation on how it works, simply, converts web pages to compressed video and audio images, but does not explain how.

In a non-limiting aspect of the invention, a web-to-HD video protocol may be used to capture and transmit images/ audio of a web page, including a full multimedia web page, regardless of its size or original format (e.g., HTTP). The protocol may be configured to compress the data into a compressed digital video format that can be sent to the user computer **104** for display in the browser **106**. Since HTTP is inefficient and slow, the web to HD video capture protocol improves the performance of satellite channels to be equal or better than 50 msec terrestrial high-capacity channels not accessed via HD Internet using the present invention. Though the web pages are preferably imaged, any suitable technique can be used to place the web pages in a format suitable for broadcasting to a large number of user computers **104**, such as converting the HTTP code to an image frame format or the like. Preferably, however, the technique is independent of the HTTP content, as in imaging.

EX1003 at 5:16-32

[120] Even if a “*Web to HD video protocol*” that “captures and transmits images/video of web page” *Id.* 5:17-18 exists, it does not generate “media streams for playback” Instead, the ‘074 patent does not require of any “protocol” or communication to achieve the functionality. “

[121] Instead, the ‘074 provides in the disclosure details on how to convert web pages into images as media streams as follows:

- a. By using PhantomJS a headless web-browser based on webkit and or QtCapture that captures sections of the “video frame buffer” of the screen with a web browser, and by using times images are captured at different times in *Id.* at 7:1-5, 7:18-22. A web-service can also be used to create a “User Interface” with

web resources that is defined as XML or JSON (*Id.* 6:61-57 and 7:1-5)

- b. The captured images for the “Custom User Interface” are used as inputs for the “FFMPEG”² or other encoder module that can convert a sequence of images into an MPEG Transport Stream, in *Id.* at 7:25-6, 7:39-40,
- c. The MPEG Transport Stream created is then multiplexed using FFMPEG or VLC³ with other multimedia files (e.g. Music), that were not rendered by the browser step (See *Id.* at 7:39-40)
- d. The ‘074 patent explains that placing the MPEG Transport Stream files into an HTTP server that can be used as part of playlist or a media stream (See *Id.* at 7:55-57),
- e. The generated MPEG Transport Stream is media stream for playback.

[122] Additionally, the ‘074 patent **separates** retrieving, obtaining and rendering of a web-page steps. Therefore, the ‘074 provides a novel method does not need to use any uncompressed audio and video and preserve the quality of the video and audio

² <https://ffmpeg.org/ffmpeg.html>

³ <https://www.videolan.org/vlc/>

files as stored in a particular source. In fact, although Lipoff explained how Rendering works in general, he did not provide any explanation or references to the “*Web-to-HD Video protocol*” nor provides as evidence any reference on this protocol.

[123] As I said, I reviewed the Avellan’s patent wrapper (EX2058) and also cited but not explained in any of the responses with the USPTO, conducted searches online and found no light on this “Video Protocol”

[124] The patent claims, e.g. Claim 1, show that “Rendering of a Web Page” requires the “with the content,” therefore the content has to be retrieved or be available for rendering a web page, or could be retrieved “After” as long as is done “*separate*”

[125] Therefore, the “clean” or “raw” multimedia content obtained in Element 1[b] is then used as part of the rendering step in Element 1[c] (e.g. Jazz Channel example) or a Hockey Game (See. Lipoff EX1002 at ¶111). In that example, of the Hockey game the live stream, does not need to be part of a webpage, instead the Live Stream is retrieved directly from the source, by Elements 1[a] and 1[b], not by 1[c].

[126] The novel steps on the ‘074 patent, permits that instead of capturing at Time 1, Time 2, each of the screen shots of the game at an ESPN web-page that contains the live stream. The HTTP Live Stream is retrieved separately from the web site as

a “Clean” and “raw” without any “*compression*” and straight from the original source of the game. As for example E.g. an M3U8 or HTTP Live Streaming Source (*Id.* 8:49-50). There is distinction on creating a “*compressed video file*” that requires the use of ZIP or TAR files, as opposed to *encoding and decoding* of video frames.

[127] Therefore, Petitioner discussion on Element 1[b] shows that one use case is obtaining a “Hockey Game” from a “media stream” e.g. via “HTTP Live Stream” and, Element 1[c] provides the Twitter feed from a web-page that can be called to render: <https://x.com/hockeygame/> . The Hockey Game can be overlay with the twitter feed rendered from the web page.

[128] When a webpage with the **x.com** feed is rendered, Element 1[c] is in use, as tweets from people at Twitter or tweets about the game, can overlap the video from the Live Stream feed, preserving Twitter’s branding, or using one of their “Twitter Widgets”

[129] In contrast, Avellan presents a cumbersome rather rudimentary methodology to experience to get screen captures of the web page with “*live stream*” feed, even if a web page adds a twitter feed next to it, it will be just taking screen shots of the video on the web page.

[130] However, given bandwidth limitations for users at Avellan’s satellite receiver (104 elements at FIG.1). Avellan’s solution perhaps was the only way to enjoy a

web page with a live stream game, as petitioner cites in “live streaming television feeds” will be captured repeatedly:

the web page until it detects a repeating pattern of the information in the web page.” Ex-1003 at 5:5-5:10. “Thus, gateway server 134 will be certain to capture all the information on the web page even if that information continues over a period of time.” Ex-1003 at 5:10-5:12 and 8:18-21 (stating that suitable content includes “live streaming television feeds [and] movies”).

Petitioner at Pg. 27

[131] In general, video encoding is done at a certain *bit-rate* to reduce the size of a video stream, hence bandwidth and video resolution are the inputs to determine the size of an output and the bit-rate. Avellan teaches away from this, as it needs the “Tag file” and the “compressed video file,” hence this is understood as “compressing them both” and being uncompressed for display.

[132] In fact, the elements in Avellan suggest that no video encoding is occurring as no hardware or software codecs are cited or mentioned, plus Avellan cites the use of *audio files* as part of a web page, using the term “*file*”

[133] As for example, video coding is based on “block-based motion compensation, quantisation, and other algorithms”

“In the case of video and image coding, this may involve evaluating the compression and processing performance of a number of software CODECs. In the cases of MPEG-4 Visual and H.264, the chosen core technology for video coding is based on block-based motion compensation followed by transformation and quantisation of the residual. Once the basic algorithmic core of the standard has been decided”

Ex2042 at Pg. 88

[134] Instead Avellan teaches that, “captures that data (including audio) to a video (or image) frame format, compresses that video data, and stores the compressed video data in the gateway 130 at the cache 136”

In the broadcast mode, the gateway server **134** retrieves the desired data from the networks **150**, **152**, captures that data (including audio) to a video (or image) frame format, com-
45 presses that video data and stores the compressed video data in the gateway **130** at the cache **136**. The cache **136** is a cache

[135] Hence, clearly, Avellan speaks about video as a file, as not as using an specific “codec” as shown at *Id.* 5:12-15. Avellan would not require to “store the compressed video data,” instead would stream it.

[136] Therefore, Avellan teaches that “compresses the image or video frame format and sends it to the browse 106”, also use the terms “compressed video file” and a “Tag file” at *Id.* 5:44 and “*displayed (once decompressed)*” at *Id.* 7:47

all the information on the web page even if that information continues over a period of time. Once the page is imaged (including any audio on the web page), the gateway server **134** compresses the image or video frame format and sends it to the browser **106** via the satellite **102**.

various locations of the action points on the web page. That tag file is associated with the compressed video file based on the domain name for the imaged page, and the video is syn- 45

the broadcast device **102** to the user computer **104**, where it may be immediately displayed (once decompressed at the computer **104**). Accordingly, the unicast mode provides fast processing which is achieved using a fast differential burst

[137] In conclusion, Avellan also fails to show any “*one media stream*” to be assembled with the screen captures, as in Avellan the screen captures are only from the webpage, not from a web-page rendered from “the content corresponding to the plurality of media streams” from Elements 1[a] and 1[b]

[138] Hence, Element 1[e] or “*Assembling at least one media stream*” is not either taught by Avellan, as the generated video file by Avellan is a “*compressed video file*” that is decompressed and displayed at the user device” Ex1002¶125

125. A POSITA would have been motivated to combine Avellan with Suzuki because it is advantageous to query the downstream content provider to determine what output “video frame format” was able to be decompressed and displayed at the user devices—*i.e.*, to determine what format was “suitable” for a given device. And a POSITA would have had a reasonable expectation of success,

[139] Besides, that the resulting output of the Gateway Server is **not** a “**media stream.**” This Petition circular logic is as follows:

- a. The web page is a “media stream,”
- b. However, the Web page is rendered,
- c. The rendered image is assembled as a “media stream”

[140] Clearly, following Petitioner’s logic, if the “web page” is a “media stream” there would have been no need to “***assemble a media stream***” as the claim requires, as it would have been already assembled (See EX2053 at 125:16-25).

5 So Avellan is basically describing some
6 infrastructure that is at the content provider. In the
7 case of Avellan, it's satellite, but just generically a
8 content provider, that has got a virtual browser located
9 as part of that infrastructure that takes Internet
10 content and converts it to a form that, by using the
11 virtual browser, converts it to a form that can be sent
12 to the -- the individual terminal devices, 104, 106, so
13 that the output of this virtual browser can be displayed
14 on these end user devices, 104 and 106.

Lipoff Deposition Day 1, Pg. 64:5-10

[141] As a consequence, as there is **no** “*media stream*” in Avellan, and there is no “*providing the at least one media stream to the content provider*” Element 1[f], hence Elements 1[a] to [1c] and 1[e] to 1[f] are not present, as additionally Avellan does not show a “*one media stream for playback*” and no “retrieving” nor “obtaining” as separate processes.

[142] Therefore, Petitioner points to the elements on the “web-page” that are not part of “retrieving” and “obtaining” steps in relation to the plurality of a multimedia items, as the request for the webpage contains data (including audio) as the Ex-1003 at 8:42-45 shows:

“gateway server 134 retrieves the desired data from the networks 150, 152, captures that data (including audio) to a video (or image) frame format,

*compresses that video data and stores the compressed video data in the gateway
130 at the cache 136.” Ex-1003 at 8:42-46”*

Petition,25

[143] Claim 2 reads *“The method of claim 1, wherein the obtaining comprises:
retrieving, for each of the plurality of multimedia items, at least one audio file
corresponding to an audio component of the multimedia item and a plurality of
screen captures corresponding to a video component of the multimedia item”*

[144] As such, Petitioner does not show that the audio file is part of the “plurality of multimedia items.” First, audio and video can only be rendered if the web-page there is a “web Player” in “autoplay” mode, otherwise if a Web-player is inserted as part of the HTML, no audio or video can be rendered with the web-page, and will require Avellan to use the “TAG communication” protocol to press “play” or a mouse click.

[145] However, even if the web-page contains audio or video, this audio or video will be in addition to the audio and video that is retrieved from the “obtaining content corresponding to the plurality of multimedia items from at least one source” in Element 1[b] in “offering the content in at least one format”.

[146] Assume that Avellan, can renders a “web-page” into video file format, and the “Podcast” or “Audio File” is at 256Kbps MP3. There are two options a) The file

is compressed via ZIP or TAR, and b) if avellan would show, it uses an encoder, it will have to downsample, re-encoded the file using a lower-bit rate e.g. 20Kbps, create a “video frame format” of some sort with the proper “timing” such that the audio and video are synchronized. **None of these is disclosed by Avellan.**

[147] As a consequence, Assume the original web page had audio AAC at 256Kbps or MP3 at 360Kbps for instance, and Video at 4K or 10Mbps, the output from the web-page capturing will be at way lower resolution (if encoding was disclosed) or just a compressed using ZIP or TAR.

[148] In contrast, the Claims 1 and 2 are novel as they preserve the original audio as when it was obtained as the plurality of multimedia items the format was preserved, e.g. AAC at 256Kbps or MP3 at 360Kbps.

[149] Therefore Claim 2 is not disclosed by Avellan.

[150] Similarly, in my analysis of Claim 3a, *“The method of claim 2, wherein the generating comprises: combining the plurality of screen captures and the at least one audio file to create each of the plurality of multimedia items.”*

[151] As, in the claim the audio file was not compressed or uncompressed, instead the claims require to obtained the “audio file” from the plurality of multimedia streams, without any changes. Therefore, Claim 3a is not disclosed by Avellan and petitioner has failed to show Claim 3a. As in Avellan, if any “audio file” is used

such generation occurs only as part of the web page imaging process. Hence, Avellan may be able to have an “audio file” per “webpage,” if the “web page” contains the audio file, but cannot have “one audio file to create each of the plurality of multimedia items,” as this requires the audio file to exist out of the context of retrieving the webpage, or even the webpage having no audio at all.

[152] In a similar fashion, Claim 4a recites that “*The method of claim 2, wherein the retrieving of the plurality of screen captures comprises obtaining the plurality of screen captures from a playback of a video on the at least one webpage.*”

[153] Claim 4a requires that the web-page contains a video, as this claim depends on Claim 2, therefore Petitioner has also fail to show this claim limitation. In fact, Claim 4a is very similar to the to my analysis where a web-page contains an “HTTP Live Streaming” content.. Therefore, Lipoff Hockey example is also an example of “*from a playback of a video on the at least one web page,*” which confirms ***claim differentiation*** from claim 1. As in Claim 1, the web page does **NOT** contain any video.

[154] In fact, petitioner repeats almost the same paragraph text for Claims 2a, 3a, 4a, 5a, 6a, 11, 13, 19a, and many others.

[155] My analysis for Claim 5a that recites “*The method of claim 4, wherein the combining of the plurality of screen captures comprises metadata corresponding to at least one of a song title, an artist, and a music genre.*”

[156] Neither shows that nor Avellan, nor Durante shows this element as it is dependent on Claim 4 that was not shown by petitioner.

[157] However, in my analysis metadata for music refers to metadata per song. Indeed, a web-page will have a title, but metadata is called usually referred as TT&A, Title, Theme, and Artist information, as in the claim language states “title, artist, and music genre”

[158] Petitioner references:

Avellan states that “suitable sites for the broadcast mode are news sites like CNN, BBC, newspaper, live streaming television feeds, movies, *music downloads*, or ESPN.” Ex-1003 at 8:18-21. Specifically, Avellan teaches that “there can be a number of broadcast channels and each channel *can have a specific theme, such as country music*, military television, etc.” Ex-1003 at 8:25-27. A POSITA would understand that a music channel “such as country music” would include metadata corresponding at least to either the song title, the country music artist, or the music

Petition,27

[159] However, a POSITA would understand that “suitable sites” such as “country music channel” refers to a web site for a “country music” and assumes a “playlist or

a web player” resides on the web page. Even if such web player existed, Durante does not show how a streaming service with different song and a playlist will use its service, and how such web page will be constructed without undue experimentation, specially knowing the format of the audio file, and whether a Flash Player is in use at the time of the invention.

[160] Although, Lipoff discusses Durante at Ex1002¶117, Durante is about “music videos” are individual videos. Neither Durante, nor Avellan discloses the creation of a playlist of videos, or music files, and a mechanism to “Extract” the metadata with each file to be part of the “web page,” as Durante is silent in providing a “web service” or an “API,” creating a new web page, and providing access to the music library thru an API or RSYNC, none of these processes are disclosed.

[161] For at least the foregoing reasons, it is my opinion that Avellan does not disclose or suggest Claims 1-5 as petitioner arguments.

[162] Besides those errors, Lipoff mistakenly interprets how Avellan (Ex1003) works. Avellan discloses two browsers not one, as Lipoff analysis interpreted. In Lipoff interpretation:

- a. Lipoff, points to Element 106 to reside at the gateway as the only “browser” or “virtual browser” (Deposition 124:17-24),

b. While Avellan points to “display in the browser 106” also

Avellan calls “HTTP Code to image frames *Id.* 5:30”⁴

[163] Therefore, there is a contradicting argument between what Lipoff testified, “*only one browser, not two*” (EX2053. Pg. 124:17-24) and what Avellan teaches.. Avellan describes in Ex1003 that “The browser 106 then recognizes when the user uses any of the input devices at the computer 104 (*Id.* at 6:37-38) but more clearly at *Id.* 6:22-31.

received in the broadcast mode. The browser **106** also generates and sends commands and a tag file to the gateway server **134** so that the gateway server **134** retrieves the information
25 desired by the user. In addition, the browser **106** controls and synchronizes the tag file and echo. For instance, if the user enters a web domain in the address field of the browser **106**, the typed letters will appear in the browser **106**. But, the browser **106** will not transmit the domain to the gateway
30 server **134** until the user hits the ENTER command key or clicks the mouse to enter the domain name. Likewise, if the
Ex 1003 at 6:22-31

[164] Therefore, there is one browser at the remote computer as Avellan states that when the “user hits the ENTER command key or clicks the mouse to enter the domain name” is when transmission to the gateway server starts, this can only happen in the remote computer and cannot happen at the gateway server.

⁴ HTTP Code is not a term used in the industry, instead HTTP only uses XML, HTML, and other MIME Types, and when source code is used is Javascript.

[165] Therefore, there is a browser at the laptop or dumb device at FIG. 1 Element 104 where a “keyboard” is connected to it such that a user “hits ENTER Command key or clicks the mouse to enter the domain name” (*Id.* at 6:30-31)

[166] Since the “Web-to-HD Video Protocol” is not clearly defined, Mr. Lipoff created assumptions on its own in hindsight on how this protocol maps to the ‘074 patent.

[167] Claim 6 recites “*The method of claim 1, further comprising: identifying the at least one webpage based on a channel identifier associated with the broadcast media channel.*”

[168] Since Claim 1 is not met, neither Claim 6.

[169] Claim 8 which states that “The method of claim 3, further comprising:

- a. detecting a change at the at least one webpage corresponding to at least one of the plurality of multimedia items
- b. in response to detecting the change, retrieving a new plurality of screen captures from the at least one webpage for the at least one of the plurality of multimedia items; and
- c. reassembling the at least one of the plurality of multimedia items using the new plurality of screen captures to yield an updated multimedia item.”

[170] However, as Petitioner at Claim 8a that is dependent om Claim 3 also depends on Claim 1. Since defendant has failed to show Claim 1. This claim was not analyzed by Lipoff, however is mentioned by Petitioner, 30

- a. For Element 8a -to 8b, which encompasses detecting a “change” and re-capturing the screens on the webpage assumes that, by detecting a change in the “broadcast data storage” that equates to a “detecting a change,” Avellan shows a “recapturing mechanism”, statement
- b. But, Avellan fails to coordinate use a “plurality of multimedia items,” as by separate downloading such items via **Element 1[b]**, in Avellan:
 - i. Song1 is in a Web Page1; Song2 is in a Web Page2, song[i] matches webpage[i], one song per web page, if the page has the song:

Claim 1 and 3, and 8 permits that, as web pages changed, the audio file is a “song” or a “podcast” then:
 - ii. Song1 for Web Page1; Song1 for Web Page2, Song1 for Web Page3, a song[1] with many WebPages[1....N]

- iii. Song 1 for Web Page1, Song2 for Web Page1, Song1 for Web Page3, many songs[1..N] with many WebPages[1..N] Even though, Web Pages 2 and 3 do not have any song in it,
- c. Avellan simply cannot achieve this, as it according to Petitioners can only get an image from a website.
- d. However, Petitioners' analysis for Element 8c is incorrect, as Petitioner's analysis, "on assembling" uses a "the plurality of multimedia" items" using "the plurality that are imaged of screen captures"

[171] Hence, Claim 8 shows that:

- a. Detecting a change on a web page, does not need 'retrieving' or "obtaining" of the "plurality of multimedia items"
- b. Assembling then use "existing multimedia items, with new screen captures"

[172] Regarding Claim 9, there is no dispute that a content provider can be a Cable TV and Television Operator.

[173] Ground 1 is used for Claim 12.

[174] Claim 12 recites A system comprising:

- a. at least one processor;
- b. a computer-readable storage medium having stored therein instructions which, when executed by the processor, cause the at least one processor to perform operations comprising:
- c. receive, from a content provider, a request for at least one media stream for playback on a broadcast media channel, the at least one media stream including a plurality of multimedia items of different types;
- d. retrieve, from a cloud based service, multimedia content corresponding to the plurality of multimedia items, the multimedia content in a first format;
- e. render a web page by a browser using the multimedia content;
- f. generate a temporal sequence of screen captures of the rendered web page, where each screen capture defines all the content of the web page at a given time, and at least two adjacent screen captures illustrate a dynamic change of at least a portion of the content over time;
- g. merge the temporal sequence screen captures with the at least one audio file to create the media stream; and

h. send the media stream to the content provider.

[175] However, Mr. Lipoff analyzed in his report, and from his testimony. Lipoff relies completely on the petition that cites Claim 1. However, Claim 1 is different from Claim 12 in many aspects. Therefore, the petition fails for several reasons:

[176] The System of Claim 12 includes a processor and a storage device, and Lipoff analyzed Claims and Element 12b at Ex1002 ¶115. Petitioner includes the “Satellite” or “Broadcast Device” as part of the system, “...the broadcast device 102,...can be stored on or read from computer readable medium...” However, as shown in FIG 1, “The Broadcast Device” Element 102 is a satellite in orbit, at deposition Lipoff agreed that EX2054 with the “blue box” is the “content provider”

[177] A POSITA will now that a satellite is not a system with a processor and storage medium. Hence, 12a and 12b cannot be met as Petitioner says at Petition,40.

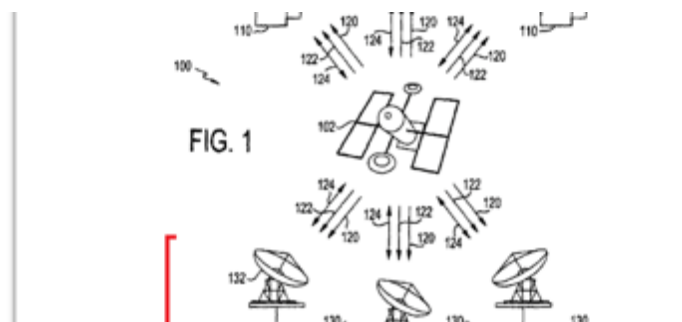


FIG 1 Element 102 - Satellite

[178] Regarding, Element 12c “receiving a request from a content provider” contrary to the method claim, Avellan’s system claim fails to meet Claim 12c criteria, but it is not shown as this claim is precisely like Element 1a.

[179] According to Avellan and Petition, Pg. 33 at Claim 12d, the same web page that is used to retrieve is the “***multimedia content***,” which is false. Hence, the reasons for Claim 1[c] apply here. There is no possibility for a low-bandwidth device over a “*low bandwidth*” as in Avellan and “compressed the website images” (See Ex1003 at 2:26-34

of user computers having browsers. The system includes a gateway platform having a gateway server and a cache. In a broadcast mode, the gateway server periodically or continuously images broadcast data (e.g., popular websites) from a
30 public (i.e., Internet) or private network, compresses the website images, and stores the compressed website images in the gateway cache. The gateway server then broadcasts all of the compressed broadcast data to all (millions) of the user computers over a broadcast device (such as a satellite or repeater).

,and, Lipoff’s declaration at Ex1002¶150, where he said that “*due bandwidth limitations the video quality needs to be adjusted*”

because the HLS protocol is a well-known protocol that provides advantages for streaming live content, including supporting adaptive bit rate streaming which can adjust the video quality based on bandwidth and device capabilities without interrupting the stream. Similarly, another advantage is that HLS is supported by

Ex1002¶150

[180] Therefore, the language on the claim requires “*retrieve, from a cloud-based service, multimedia content corresponding to the plurality of multimedia items*” is simply not possible given the conditions in the satellite link and Gateway “middle man,” as in Avellan, if any multimedia content has to be at ***all times*** modified or changed from its original quality, as part of the web page image capturing process.

[181] Petitioner can only show at best, a) How a web site’s visual representation can be shown at a user’s computer. (See Petition,40), b) the visualization does not renames a “webpage” to a “*plurality of multimedia items*”, c) Avellan does not show any “multimedia item” be retrieved, even if it’s part of a web page as are “***compressed video files***” of the imaged website. In fact, Avellan will only allow getting an image captured from e.g. Dropbox. Even if a user “clicks” on a document, the document CANNOT be downloaded, as a ***download*** is no longer “Rendering,” in Avellan you could see the “screen” but Avellan does not disclose that a user can “download it.” As a consequence, there is no disclosure that a “***plurality of media items***” can be obtained from a ***cloud-service provider***..

modified and/or at predetermined intervals.” Ex-1003 at 10:46-49. “The user computers 104₁-104_n are then able to display the CNN site whenever it is called up by the browser 106 at the user computer 104₁-104_n.” Ex-1003 at 10:54-56.

[182] Avellan in Ex1003 at 5:5-12 shows that “*web pages often have information such as a video, streaming information or an animated display,*” hence the step

Claim 12[d] is not met by Petitioner, and was not analyzed by Lipoff, as Lipoff and Petition point to the “web page” to be also the “*cloud service provider*,” showing a single request for a web page.

In addition, web pages often have information which is 5
rendered over a period of time, such as a video, streaming
information, or an animated display. Accordingly, the gate-
way server 134 continuously captures images of the web page
until it detects a repeating pattern of information in the web
page. Thus, the gateway server 134 will be certain to capture 10
all the information on the web page even if that information
continues over a period of time. Once the page is imaged

[183] Now, for Element 12e, first requires “retrieve from a cloud-based service, multimedia content corresponding to the plurality of multimedia items.” Once that “multimedia content” is retrieved and available, is followed by “Render a web page by a browser using the multimedia content” that was retrieved in the previous step.

[184] This means that the multimedia content is already available to “render a web page,” and is not part from the web-request that is part of web page rendering, as Avellan teaches. This multimedia content does not need to be “compressed” or a “tag file,” and, in fact, such “compression” and “decompression” simply damage any “multimedia content”

[185] As, Petitioner points to Avellan Element 1e, 1f and those are not met, the Claim cannot be met and fails to show this claim.

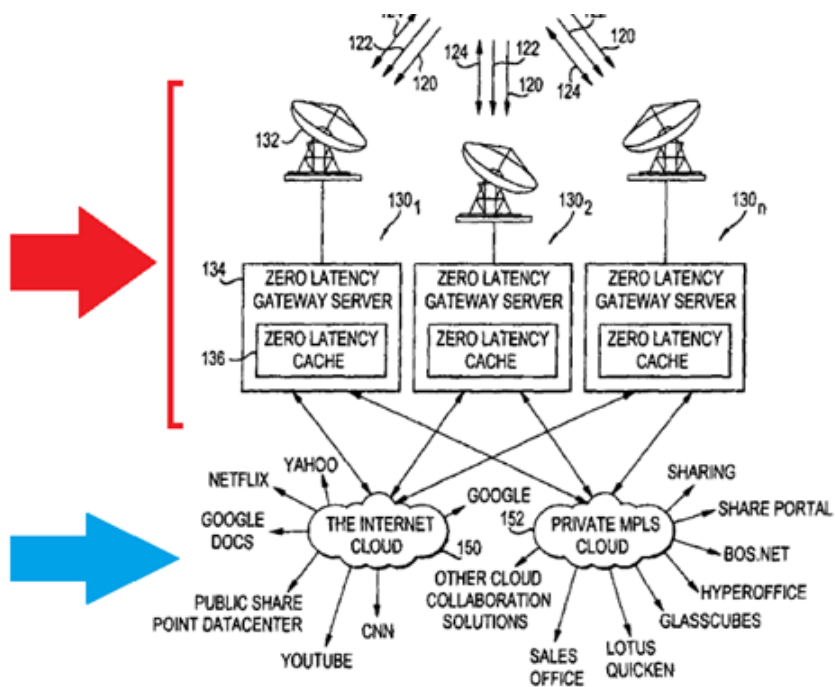
[186] Most importantly, Mr. Lipoff indicated that EX2054 or “Exhibit #3” that “the content provider” was the blue box that matches the “Red arrow” in Petition,33 i

Element 12h

Element 12h send the media stream to the content provider.

For the same reasons as in Element 1f, Avellan discloses Element 12h.

[187] Hence, Petitioner contradicts itself in terms of Claim 12h and Element 1f, as the content provider for Claim 12f has to be the Element 104, 106, not the red arrow as shown by petitioner.



[188] Regarding Claim 13, not only petitioner has failed to show Claim 12, but the Claim 13a recites that “ *The system of claim 12, further comprising: retrieve a video*

from the cloud based service, wherein the screen captures correspond to a plurality of static images obtained from the video,”

[189] This claim shows that a “video” is retrieved from a “*cloud-based service provider*” and only the image screen captures are from the web page with the video itself. This dependent claim involves the ***video on its own***, not a web page hence Avellan cannot disclose this Claim 13

[190] . What petitioner shows at Petition,35 is “Screen captures” from the “web-page” not from the “video” alone, from the “cloud-based” service provider. Again, Lipoff and Petitioner now equates video as web-page, and that’s incorrect, and can only obtain any “media” when is part of a web page.

[191] Regarding Claim 14, not only petitioner has failed to show Claim 12, but Claim 14a recites that “The system of claim 12, further comprising: select the multimedia content from the cloud based service based on a music genre associated with the broadcast media channel.”

[192] Lipoff failed to make the analysis and the Petition,36 as all the results from Avellan are “compressed video data files,” are not streams for “playback.” As demonstrated earlier Avellan’s “a compressed video data” that needs to be uncompressed, is not *played back*. Hence, Petition, 36 points as the “cloud-based service” the same “web sites” in FIG 1 of Avellan. A POSITA understands that,

specially with DRM, obtain music content from a web page is an endeavour that requires “undue experimentation” Hence, Claim 14 is not met.

[193] Regarding Claim 15, “*The system of claim 12, wherein the request comprises a request for a plurality of multimedia streams for playback on a plurality of broadcast media channels*” As shown in Petition on Pg. 36 their analysis fails as it depends on Claim 12,

[194] Additionally, Avellan does not show a “plurality of broadcast channels” but at best a single “broadcast channel” plus the generated files by the “compressed video file.” As there is no knowledge on the RF and the Physical layer of the Satellite system, however in most systems, physical channels in satellite are limited by the number of channels. Avellan is silent on how the satellite broadcast channels work. As demonstrated earlier Avellan’s “a compressed video data” that needs to be uncompressed, is not “*a stream for playback*.”

[195] As Petitioner, 37 points to the reasons for Claim 1a to 1f that I showed are not met by Avellan. Hence Claim 17a is also not shown to be anticipated by Avellan.

[196] Claim 17 recites “A non-transitory computer-readable storage medium having stored therein instructions which, when executed by a processor, cause the processor to perform operations comprising:

- a. receiving, from a content provider, a request for at least one media stream for playback on a broadcast media channel, wherein the at least one media stream includes a plurality of multimedia items of different types;
- b. obtaining content corresponding to the plurality of multimedia items from at least one source offering the content in at least one first format;
- c. rendering a web page by a browser using the content;
- d. generating a sequence of screen captures of the rendered web page, where each screen capture defines all of the content of the web page at a given time, and at least two adjacent screen captures illustrate a dynamic change of at least a portion of the content over time;
- e. assembling the at least one media stream using the sequence of screen captures; and
- f. providing the at least one media stream to the content provider for broadcast on the broadcast media channel.

[197] Claim 17 is analyzed as Claim 1, and hence is not disclosed by Avellan

[198] Regarding Claim 18, that recites “The non-transitory computer-readable storage medium of claim 17,

- a. wherein the obtaining comprises retrieving, for each of the plurality of multimedia items, at least one audio file corresponding to an audio component of the multimedia item and a plurality of screen captures corresponding to a video component of the multimedia item; and
- b. wherein the assembling comprises combining the plurality of screen captures and the at least one audio file.

[199] My analysis is as follows:

- a. First, regarding Element 18a, since Petition points to Element 2a is not met, this element is also not met,
- b. Second, regarding Element 18b that states "wherein the assembling comprises combining the plurality of screen captures and the at least one audio file", as shown before the Web-to-HD protocol does not show the assembling process, as at best video feeds do not have a separate “audio file,” instead the video and video frames come already with the audio synchronized per frame.

[200] , Regarding Claim 20, Since Claim 17 is not met, this is not met. Avellan does not “detect a network failure affecting the connectivity of at least one website,” Avellan is focused on finding the content on the gateway server’s cache (see EX1002 at FIG 2 at element 202.” Avellan only checks for storage availability to use the cache, whereas Claim 20 requires that a network failure to be detected of at least one website. Hence Avellan does not disclose Claim 20

1. Ground 2 –Avellan with Durante Claim 5

[201] Claim 5 recites that “The method of claim 4, wherein the combining of the plurality of screen captures comprises metadata corresponding to at least one of a song title, an artist, and a music genre.:

[202] Additionally, Grounds 2 also fails because, it relies on Avellan in Ground 1 and Durante.

[203] However, Durante’s reasonings fails for at least the following reasons:

- Durante does not disclose “Metadata” as part of the “one media stream,” but instead discloses a video library (See Ex-1004 at 4:19-21). As the metadata, if such “metadata” is already included in the video.
- This metadata is part of the web-page rendering mechanism attributed to “Avellan’s Web-to-HD Video Protocol.”

- Hence, Durante is not combinable with Avellan, as Avellan requires the video to be part of the “web-page”, and Durante’s video library will have to be displayable via the “web page” in a way that Avellan can use two web pages, which simply can’t, as the HTTP protocol requires all web-pages to be within the same domain
- Therefore, undue experimentation will be needed to:
 - Convert Durante’s Video library and process each video to be converted to audio-only, b) Convert or extract the text in the video to be part of the web-page to be rendered by Avellan, and c) If the web-page needs a “web player” such web-player may assume full interactivity with the screen.
 - Integration with Avellan’s Broadcasting system simply can’t work, because if end-users will interact with the video library from Durante has to be done in the Unicast channel. For a broadcast, a plurality of multimedia item from such library will require to be either individually selected, and the creation of playlists to be automated and played within the web-page

2. Ground 3 - Avellan and Ma for Claim 7

[204] Claim 7 states that “The method of claim 1, further comprising: identifying the at least one webpage based on a channel identifier associated with the broadcast media channel”

[205] Moreover, Lipoff analysis on Ground 3 and Ma fails for the following reasons:

3. Although, Ma assigns channel identifiers to “web sites” e.g. Thomsom.NET and Yahoo.com (See EX1005 at 5:5-11).
4. Since, Claim 7 depends on Claim 1, therefore Petitioner has failed to show Ground 3 as well.

5. Ground 4 - Avellan with Suzuki for Claim 7

[206] Claim 7[a] reads “The method of claim 1, further comprising: querying the content provider to determine the second format, wherein the second format corresponds to a Moving Picture Experts Group (MPEG) format.”

[207] Regarding or Ground 4 analysis on Claim 7 regarding Suzuki reference, in this ground also fails for the following reasons

[208] Lipoff at ¶125 states that “Avellan converts web content into a compressed “video frame format” that is “suitable for broadcasting to a large number of user

computers,” however this is insufficient for Claim 7, which means that Suzuki in combination with Avellan only takes into consideration one format,

[209] Claim 7 that also depends on Claim 1 describes a method of querying the assembled stream with a multimedia item from a plurality of multimedia items that are *not* part of the “web content” that has been compressed. Hence, the querying made by Claim 7 encompasses two items, the multimedia item and compressed web content

[210] In conclusion,

- a. The ‘074 does provide querying process to the content provider, as the content provided determines values such as GOP, Group of Pictures, Video encoder resolution (e.g. 640x480) and the bit-rate in Kilobits per Second, as shown at:

As the requests arrive at the “Caching” unit from the multicasting units, the “Caching” unit can be configured to
30 perform parallel encoding for all the different channels available from the unit. FIG. 5 illustrates an example method that can be implemented by the Mediaplug, and in particular, by the “Caching” unit. At step 505, encoding flags or input parameters can be received which may include GOP (Group
35 of Pictures) which is used by certain video encoders, resolution (e.g. 640x480) in pixels, bit rate in Kilobits per second, any encoding type of video (e.g. H.264), encoding type of audio (e.g. AC-3), duration of the video feed, etc. In

Id. at 6:28-38

- b. Avellan does not disclose the use of MPEG encoders.

[211] Therefore, Suzuki disclosure requires standard video format encoding sizes and a web-page, unless captured by the size of the screen of the terminal will require Avellan to be modified to meet Suzuki's size requirements, and also change how the TAG file system works, as then the TAG File will need to be adjusted as the terminal is adjusted.

6. Ground 5 –Claim 10, 11, and 21 for Avellan and Wannamaker

[212] Regarding Ground 5 also fails to show Claim 10, 11, and 21 are obvious in view of Avellan and Wannamaker.

[213] First for Claim 10, Lipoff and Petition has failed to show that Claim 1, however what Lipoff show is that an MMS device is needed to provide content to the MUX. The MMS use “out of band servers (MMS_0M1000)”

[0193] A multimedia streamer (MMS) consists of the audio/video/terminal server (AVTS) that delivers the units of audiovisual information sent by the system to the user's set-top box. It also contains the out-of-band servers (the MMS_0M1000) and the downstream router (DSR). An external MMS also requires a cache manager to transfer content from the application server (AS) or content processor (CP) to the MMS. In general the MMS is hosted as an AS which eliminates the need for additional content transfers.

[214] As shown EX2059 and EX2044 are related to the “0M1000,” which made by Motorola and Wannamaker's out of band component. This is part of the MMS module discussed by the document, and in charge of “delivering the content.”

The device “Operation Manual” (EX2044 at Pg. ii) has only one chapter that reads “Setting Receive Multicast IP Addresses, (Logical Ethernet Input Ports Only).” As shown, such device is only capable of receiving a multicast, and *unable to generate a multicast*.

[215] First, Claim 10 requires an MPEG Multiplexer that can “receive a multicast” and a Multicast source such that the “Content Provider,” that can generate it or is able to “multicast” to the “Cable Operators’ MUX” that support the MPEG Transport Stream format.

MSO system. The file type or format requested by the multicasting embodiment, e.g. multicast-01 or multicast-02, can include Transport Stream (e.g. TS) and/or MPEG-4 Part 14 (e.g. MP4) values 405. This request is executed from any of the multicasting embodiments, usually making use of the HTTP GET Request. The multicasting unit can connect to an HTTP Server and retrieve the list of files based on the type identified by the request. As the caching unit may handle

[216] 10 15

‘074 Patent at 8:8-15

[217] Hence, Avellan in view of Wannamaker can’t be easily combinable and will have no “multicast generation” feature, as the MMS_OM1000 is used in a different way other than satisfying the claim language related to an “MPEG Multiplexer” as shown from EX2059

OM1000
MPEG-2/Digital Out-Of-Band Modulator



Out-of-band modulator used to transmit MPEG-2 data streams to cable terminals

The Motorola out-of-band multiplexer/modulator, OM-1000, provides an out-of-band data stream to the digital settop terminals. It is primarily used as a signaling channel but can also provide for transmission of program guide information, code downloads, InfraRed codes, as well as application information. It is also utilized as the downstream path in an interactive system.

The input to the Motorola OM-1000 can be configured with a mix of both Ethernet and serial inputs. A Quadrature Phase Shift Key Modulator (QPSK) modulates the data on a 1.5 MHz wide carrier. The Motorola OM-1000 is agile across the 71 - 129 MHz band. The transmitted data packets are composed of data that can be multiplexed either in the Motorola OM-1000 or externally. The Motorola OM-1000 uses null packets as necessary to perform rate aggregation between its inputs and the 2.048 Mbps output. Data integrity is protected by

Forward Error Correction encoding and interleaving.

HIGHLIGHTS INCLUDE:

- Transmits MPEG-2 data streams to cable terminals individually or on a broadcast basis
- Data streams consist of authorization information, electronic program guide information, code downloads and interactive traffic
- QPSK modulates data stream in a 1.5 MHz carrier to both IF and RF output ports
- Implements FEC code for cable transmission
- Generates and sends emergency alert packets to cable terminals
- Multiple data accepting ports including RS232, RS530, and Ethernet
- Frequency agile RF output with variable power control
- Industry standard 10 Base-T Ethernet connectivity for status monitoring and network element control
- Supports broadcast messaging
- Supports interactive applications



Ex2059 Pg. 1 of OM1000 ^{5,6}

Additionally, as a hardware “out-of-band” server, it shows that, a keypad is used to configure it:

⁵ <https://www.scribd.com/document/361305809/OM1000>

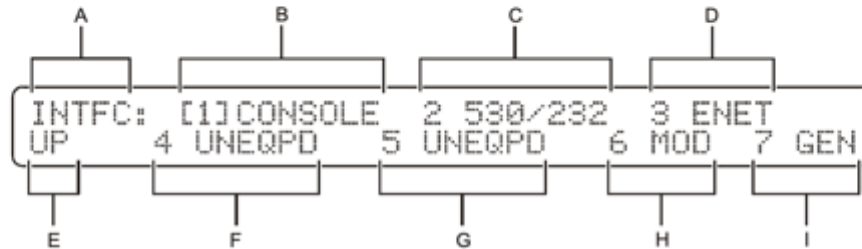
⁶ <https://www.manualslib.com/manual/1727666/Motorola-Om-1000.html>
<https://www.manualslib.com/products/Motorola-Om-1000-10772837.html>

NTFC Menu—Modifying the Physical Port Default Settings

To modify the physical port default settings:

- 1 Select **INTFC** on the MAIN menu and then press **ENT** to display the INTFC menu illustrated in Figure 4-4:

Figure 4-4
INTFC menu



- 2 Press **↑** or **↓** to select the port to configure and then press **ENT**.
- 3 Use Table 4-4 to set up ports 2, 4, 5, and 6. The table describes the configurable menu items for these ports.
- 4 After configuring the menu items, select **UP** and then press **ENT** to display the MAIN menu.

Table 4-4 describes the fields and available options:

Table 4-4
Configuring the physical ports

Key	Field	Description
A	INTFC:	Identifies the menu.
B	1 CONSOLE	Displays the internal console settings for PORT 1. The console port is accessible from the rear panel. It provides asynchronous communications at 9600 baud and cannot be reconfigured at the front panel. It is used only for maintenance.
C	2 530/232	Configures the operating parameters for PORT 2. This port is configured for asynchronous communications, and the data rate is configured from 300 bps through 19.2 Kbps.
D	3 ENET	Displays the operating parameters for PORT 3. A display-only field displays the MAC address; a selection for the Time-To-Live (TTL) setting, a selection for enabling or disabling IGMP, and a menu selection for the multicast MAC receive address assigned to the OM 1000 at the factory.
E	UP	Displays the MAIN menu.
F	4	Configures the operating parameters for optional PORT 4. Configure the data and baud options as described for PORT 2, if present. Select async or sync (internal clock, external clock, or slv on rx clock). The INTFC menu displays UNEQPD if the communications board is not present and configured. Refer to the <code>operate.txt</code> file in Appendix C, "Initialization Information."

OM 1000 Installation and Operation Manual

EX2044 at Pg. 37/97 of the installation and operation manual of OM1000.

Motorola indicates how to change configuration the Front-Panel Interface:

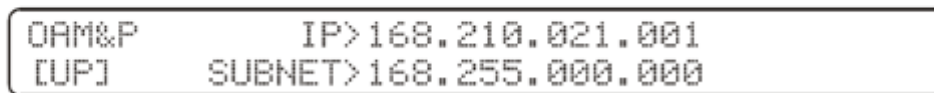
Using the Front-Panel Interface

The OM 1000 front-panel interface includes an LCD and a set of cursor control keys that enable you to set and change operating parameters. The LCD provides a series of menus showing specific OM 1000 parameter settings. The menus provide:

- Display-only information that you cannot select or change
- Parameter settings that you can select and modify
- Navigational aids that enable access to other menus

Figure 4-1 illustrates a typical display. The menu name, OAM&P, is display-only; the SUBNET and IP options are changeable parameters.

Figure 4-1
Sample OM 1000 configuration menu



To branch to other menus, use the UP and MORE (not shown) options as navigation aids.

EX2044 Pg. 29/97 of the installation and operation manual of OM 1000⁷.

[218] As shown above, the OM 1000 is manually configured thru the “Front panel interface” as shown above. **This shows an obvious technology mismatch, from hardware with a method patents.**

[219] The OM1000 can only “receive a multicast” and cannot “send one”, plus the “Ethernet interface” can only be used for management purposes.

[220] **Second**, regarding the analysis for Claim 11, as is based on the methods of Claim 1. Such virtual machine can only be done suing a software-based system, and implies that for “Provisioning” for example, IP Addresses, Certificates, Credentials

⁷ Source <https://infiniumnet.com/PublicDocs/motorola%20om1000%20manual.pdf> The same manual is found at “ManualLib.com” See: <https://www.manualslib.com/manual/1727666/Motorola-Om-1000.html?page=29#manual>

and other parameters are set as shown in Ex1001 FIG10 and FIG11, and none of that is disclosed by Avellan or Wannamaker.

[221] The virtualization generates a a docker instance or a virtual machine that can be created from the software-baseline. Lipoff at ¶134 cites EX1007 at [354] however in a paragraph above at [336] this narrative refers to the Client, not to the servers providing the system. Besides, the Java Micro Edition or “MicroVM” resides at the “TV Navigator,” not at the server. As shown herein, the Java-based middleware is at the “Set-top box”:

[0336] An important component of the client is the microVM application environment (LMAE) 50. It is a Java-based middleware environment that provides TV control, subscriber input control, a core user interface, and a framework for enabling new applications to be developed and loaded without updating the firmware on the set-top box. Network operators can easily create, customize, and enhance these applications to change the look and feel of the Interactive TV.

EX1003 at [0336]

[222] In fact, Lipoff within the same paragraph points to the “microbrowser” or LMAE referred at FIG.9 which is a J2ME (Java Micro-Edition) application.

[223] I worked at Motorola and the capabilities for J2ME are limited. as it is designed for mobile phones and embedded devices, not servers.

[0671] LMAE microVM application environment.
This is a VM-and-API set designed for consumer electronic devices, such as television set-top boxes. LMAE is based on J2ME for connections, limited device configuration.

[224] Then Petition, 51 cites, *Id.* at [0271] and mischaracterizing what an MML Tile is by saying “is an MPEG packet containing *MPEG markup language*,” there is no MPEG Markup Language in the document. Wannamaker teaches that CPML and MML are results of server transcoding.

[0660] CPML Information platform markup language

Even in other “Liberate Technologies” white papers (EX2061, 4 and EX2062, Pg. 7) describes Server Transcoding. The Wannamaker reference a conversion from standard HTML markup language to theirs supported by their microbrowser or TV Navigator. Clearly, there is no mention of “MPEG Markup Language” within Wannamaker.

[225] The reference *Id.* [0271 “This is contained in an MML tile that is transcoded from the original HTML” when **CPML** and MML are “markup languages” required by the client to process the “web-data” as further explained by *Id.* at [0273] CPML stands for “Information Protocol Markup Language” See *Id.* [0660].

[0273] 4. The client software uses some of these freed-up CPU cycles to run a small but powerful microbrowser that interprets the contents of the MML tile. MML provides simple commands for drawing lines and text. In combination with the MPEG image data, MML lets the user navigate hypertext links.

[226] Third, Claim 11 discloses the use of at least “one virtual machine” for performing the “receiving, assembling, generating, and providing” which Lipoff does not show even how a POSITA would convert all the “servers” specially the “MMS” module an “AVTS” hardware to a software device, which it on itself could be a disclosure.

[227] Besides, petitioner had failed to anticipate Claim 1, even if it did, the combination of Avellan and Wannamaker that Lipoff describes at ¶138 is a wishful thinking. First, even if Avellan could be virtualized, which is debatable as first is it’s unknow whether the “web-to-HD video protocol” even exists, and if it did, as a protocol it would require the “web-to-HD” server to be software and be able to virtualized. Second, all elements described by Wannamaker are MPEG-based systems with multicast protocols, multicast protocols with two-way uplinks as in Avellan was possible only with “High Throughput Systems” called HTS which would require a different satellite platform, including orbit positionings and physical constrains derived from antenna design.

[228] Claim 21 also depends on Claim 17, and “involves assembling the at least one media stream, comprises inserting at least one MPEG packet including metadata

corresponding to the multimedia item,” as Avellan and Wannamaker are competing technologies, then it will require undue experimentation to a) use a media stream, b) create the MPEG packet with Wannamaker’s technology (hardware), and c) convert Wannamaker’s format to work from a QAM Upconverter to satellite RF, which seems undue experimentation and unknown results. Therefore, Ground 5 fails for Claim 10, 11, and 21

7. Ground 6 – Avellan in view of Heikens for Claim 16

[229] As shown at, Claim 16, recites “The system of claim 12, wherein the media stream is sent to a broadcast internet protocol (IP) address associated with the content provider.”

[230] However, in this Ground again petitioner switches the content provider from being “Red Arrow” to be the receiver Laptop on Avellan’s FIG 1 Element 104 and 106. However, the Heikens address FF:FF:FF:...FF is a MAC Address compatible with Ethernet, not with satellite networks. Hence, Petitioner argument fails.

Heikens discloses “a video server for supplying video channels to subscribers” and states that “an example of a common multimedia stream is a broadcast stream bound to a broadcast address, being a network broadcast address such as the broadcast IP address 255.255.255.255, or a broadcast hardware address such as the broadcast MAC address FF:FF:FF:FF:FF:FF:FF:FF.” Ex-1008 at 1:15-16 and 1:25-29.

Petition,53

[231] Additionally, Lipoff at ¶¶145-146 switches his position from the “content provider” being the “Gateway” to be the Laptop and Petition,53 as shown herein:

Similarly, Avellan states that the user computers 104 “can be any suitable device . . . such as a laptop computer, desktop computer, smartphone, tablet PC, laptop, and Internet equipped television,” which a POSITA would recognize would all be capable of communicating using Internet Protocols. Ex-1003 at 3:53-56 and

8. Ground 7 – Avellan in view of Matthews for Claim 19

[232] Matthews and Avellan are not combinable as, for example if the HTTP Live Streaming source is replaced, there is incompatible, as HTTP works on segments of video in real-time. As petitioner at Pg. 55 recites:

Avellan states that “HTTP is used to serve images, sound, and other content, in addition to HTML” and states that the system “can store the data in any suitable format(s) including HTTP format.” Ex-1003 at 1:25-26 and 8:52-53. Additionally, HLS uses H.264 or MPEG-4 Part 10 to encode video data, and H.264

[233] The claim 19 requires that “The non-transitory computer-readable storage medium of claim 17, wherein the at least one media stream corresponds to at least one of an HTTP live stream (HLS), an HTTP playlist, and a Real-time Streaming Transport (RTSP) stream .” Hence, Avellan would use the HTTP Live Streaming (See EX2056) as part of the “Web Page” rendering using the Web-to-HD Video Protocol disclosed by Avellan and it will not be part of the media stream, as the Claims require them to be distinct⁸.

[234] Additionally, such combination will fail because the “Adaptive Bit-rate” or adaptiveness to bandwidth will fail, as the bitrate on the MPLS network and gateway to the web page will be substantially greater and quality will be degraded, hence such combination will not a motivation by a POSITA to obtain a better system not a worst one.

⁸ As reference RFC2326 at EX2048 includes the Real-time Transport Stream Protocol

[235] Additionally, the “content provider appears to be the Elements 104 and 106 as it will be the recipient of the HTTP request that will be compressed as a video file.

[236] First, Ex1009 at 10:37-49, “segments or chunks” are delivered to users, hence if Avellan would be combined with Matthews

Stream separator 600 may include hardware or a combination of hardware and software that may divide a live program stream into small segments (or “chunks”) that may be delivered to users. For example, stream separator 600 may receive a live stream feed 620 from a content source (e.g., content source 190) and divide the stream into programming chunks 630 that each contain, for example, several seconds of content from live stream feed 620. Based, for example, on advertising cue tones in live stream feed 620, stream separator 600 may create programming chunks 630 that correspond to advertising breaks in live stream feed 620. Stream separator 600 may provide programming chunks 630 to programming server 140 for retrieval by user device 120.

50 Stream separator 600 may generate descriptions of each

[237] As shown, Avellan would retrieve at best using a “Web Player,” the rendered” HTTP segments and chunks” with video, compressed them and send them to the devices 104 and 106. Audio is questionable how that is going to occur, however, assuming that this is possible, since Petitioner considers “media streams” the same as “web pages”

[238] The media streams are retrieved as part of Element 1[a] not as part of “Web Page” rendering:

[239] Therefore, the combination of Matthews and Avellan does not disclose Claim 19.

9. Ground 8 – Avellan in view of Wilsher for Claim 20

[240] Claim 20 is composed by:

- a. Element 20a “The non-transitory computer-readable storage medium of claim 17, storing additional instructions which, when executed by the processor, result in operations comprising: detect a network failure affecting connectivity with the at least one website; and”
- b. Element 20b " in response, provide a previously recorded media stream to the content provider”

[241] Wilsher discloses a “secondary URI” or “URL” to work in case of failure, however, the Claim 20 uses a pre-recorded media stream that is delivered to the content provider.

[242] Again, for this claim the Lipoff ¶155 appears to point to the Element 104 and 106 as the “Content Provider” as it would be not needed to provide a response to itself, if the “Content Provider” that petitioner is using for Claim 1 is the same device that has already recorded the same content. As shown below, the “playing back” is now made to the user’s computers, not to the “content provider” previously used for Claim 1 and 17, and is the has changed for Claim 12 and Claim 20.

storing generated streams in cache. A POSITA would have recognized that the system of Avellan, with the described redundancy, is capable of playing back previously-cached content in the event of a server or network failure, and

**10.Ground 9 – Avellan in view of General Knowledge for
Claim 20**

[243] Lipoff at ¶158 confuses redundancy with fault-tolerance, and redundancy obviously adds more servers to the pool of servers provided by Avellan will not fix a web-server with a web-page being unavailable.

[244] Although a POSITA can apply some “network failure” detection, the ‘074 patent shows that a “previously recorded media stream to the content provider”

[245] Since “Content Provider” is the device including Gateway, Satellite, as indicated by Petitioner. This indicates that the “content provider” is not the “blue square” in “Exhibit #3” and contradicts the arguments made by petitioner thus far.

IX. CONCLUSION

[246] Grounds 1 to 9 fail to show that any of the claims 1-20 of the '074 patent are invalid under U.S.C. 102 and 103 grounds.

[247] I may modify or supplement my opinions, if necessary, based on further review and analysis of evidence in this case, including review and analysis of any information that may be provided to me subsequent to the filing of this Declaration. I am prepared to testify about these opinions.

X. CERTIFICATION

[248] I hereby certify and 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 and 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.

Dated: September 12h, 2025

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'E. A. Hernandez', written over a rectangular box.

Edwin A. Hernandez. Ph.D.

