

Under the Paperwork Reduction Act of 1995 no persons are required to respond to a collection of information unless it displays a valid OMB control number.

UTILITY PATENT APPLICATION TRANSMITTAL (Only for new nonprovisional applications under 37 CFR 1.53(b))		Attorney Docket No. 162774.00121
		First Named Inventor Edwin A. HERNANDEZ-MONDRAGON
		Title METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY
		Priority Mail Express® Label No.

APPLICATION ELEMENTS See MPEP chapter 600 concerning utility patent application contents. 1. ☐ Fee Transmittal Form (PTO/SB/17 or equivalent) 2. ☒ Applicant asserts small entity status. See 37 CFR 1.27 3. ☐ Applicant certifies micro entity status. See 37 CFR 1.29. Applicant must attach form PTO/SB/15A or B or equivalent. 4. ☒ Specification [Total Pages <u>28</u>] Both the claims and abstract must start on a new page. (See MPEP § 608.01(a) for information on the preferred arrangement) 5. ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets <u>12</u>] 6. Inventor's Oath or Declaration [Total Pages <u>1</u>] (including substitute statements under 37 CFR 1.64 and assignments serving as an oath or declaration under 37 CFR 1.63(e)) a. ☐ Newly executed (original or copy) b. ☒ A copy from a prior application (37 CFR 1.63(d)) 7. ☒ Application Data Sheet * See note below. See 37 CFR 1.76 (PTO/AIA/14 or equivalent) 8. CD-ROM or CD-R in duplicate, large table, or Computer Program (Appendix) ☐ Landscape Table on CD 9. Nucleotide and/or Amino Acid Sequence Submission (if applicable, items a. – c. are required) a. ☐ Computer Readable Form (CRF) b. ☐ Specification Sequence Listing on: i. ☐ CD-ROM or CD-R (2 copies); or ii. ☐ Paper c. ☐ Statements verifying identity of above copies	Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450 ACCOMPANYING APPLICATION PAPERS 10. ☐ Assignment Papers (cover sheet & document(s)) Name of Assignee _____ 11. ☐ 37 CFR 3.73(c) Statement ☐ Power of Attorney (when there is an assignee) 12. ☐ English Translation Document (if applicable) 13. ☐ Information Disclosure Statement (PTO/SB/08 or PTO-1449) ☐ Copies of citations attached 14. ☒ Preliminary Amendment 15. ☐ Return Receipt Postcard (MPEP § 503) (Should be specifically itemized) 16. ☐ Certified Copy of Priority Document(s) (if foreign priority is claimed) 17. ☐ Nonpublication Request Under 35 U.S.C. 122(b)(2)(B)(i). Applicant must attach form PTO/SB/35 or equivalent. 18. ☐ Other: _____ _____ _____ _____ _____
---	--

***Note:** (1) Benefit claims under 37 CFR 1.78 and foreign priority claims under 1.55 **must** be included in an Application Data Sheet (ADS).
(2) For applications filed under 35 U.S.C. 111, the application must contain an ADS specifying the applicant if the applicant is an assignee, person to whom the inventor is under an obligation to assign, or person who otherwise shows sufficient proprietary interest in the matter. See 37 CFR 1.46(b).

19. CORRESPONDENCE ADDRESS					
☒ The address associated with Customer Number: <u>86000</u> OR ☐ Correspondence address below					
Name					
Address					
City	State		Zip Code		
Country	Telephone		Email		

Signature	/Shanon L. Vieau/	Date	2019-12-30
Name (Print/Type)	Shannon L. Vieau	Registration No. (Attorney/Agent)	77530

This collection of information is required by 37 CFR 1.53(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

EXHIBIT**1016**

Electronic Acknowledgement Receipt	
EFS ID:	38160650
Application Number:	16729986
International Application Number:	
Confirmation Number:	7220
Title of Invention:	METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS
First Named Inventor/Applicant Name:	Edwin A. HERNANDEZ-MONDRAGON
Customer Number:	86000
Filer:	Shannon Lee Vieau/Nancy Dickenson
Filer Authorized By:	Shannon Lee Vieau
Attorney Docket Number:	162774.00121
Receipt Date:	30-DEC-2019
Filing Date:	
Time Stamp:	14:25:15
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment		no			
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	WebADS.pdf	128179	no	8
			5af1757b45d644a87457f3997950d72f3302cd81		
Warnings:					

Information:					
2	Preliminary Amendment	162774-00121_PreliminaryAmendment_12-30-2019.pdf	8998	no	3
			7ee39fe29d7d9d73cfe3aba871ba13698ba3c198		
Warnings:					
Information:					
3	Drawings-only black and white line drawings	162774-00121_Drawings_12-30-2019.pdf	862202	no	12
			1442e7fbda9a64622bc012cff38ee99c64c4ff6fb		
Warnings:					
Information:					
4	Oath or Declaration filed	162774-00121_Declaration_12-30-2019.pdf	47474	no	1
			1555f74f30b037ef827059b22be1ee0c8727449f		
Warnings:					
Information:					
5		162774-00111_ParentApplicationsFiled_Specification.pdf	1359638	yes	28
			0f19cd544fd60ef5a37211c787b0a3e8a5d27e26		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Abstract		1	1	
	Specification		2	23	
	Claims		24	28	
Warnings:					
Information:					
6	Transmittal of New Application	162774-00121_ApplicationTransmittal_12-30-2019.pdf	283041	no	1
			6f968c0d7fe1e2f17df0e39278e617118c725cb3		
Warnings:					
Information:					
Total Files Size (in bytes):			2689532		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	162774.00121
		Application Number	
Title of Invention	METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2:

☐	Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)
--------------------------	---

Inventor Information:

Inventor 1				
Legal Name				
Prefix	Given Name	Middle Name	Family Name	Suffix
	Edwin	A.	HERNANDEZ-MONDRAGON	
Residence Information (Select One)		☒ US Residency ☐ Non US Residency ☐ Active US Military Service		
City	Coral Springs	State/Province	FL	Country of Residence ⁱ US
Mailing Address of Inventor:				
Address 1	4890 NW 101 Avenue			
Address 2				
City	Coral Springs	State/Province	FL	
Postal Code	33076	Country ⁱ	US	
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button. Add				

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).	
☐ An Address is being provided for the correspondence information of this application.	
Customer Number	86000
Email Address	ipdocket@foxrothschild.com Add Email Remove Email

Application Information:

Title of the Invention	METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS		
Attorney Docket Number	162774.00121	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	12	Suggested Figure for Publication (if any)	

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	162774.00121
		Application Number	
Title of Invention	METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS		

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:						
☒ Customer Number		☐ US Patent Practitioner		☐ Limited Recognition (37 CFR 11.9)		
Customer Number		86000				
Prefix	Given Name	Middle Name	Family Name	Suffix	Remove	
Registration Number						
Prefix	Given Name	Middle Name	Family Name	Suffix	Remove	
Registration Number						
Additional Representative Information blocks may be generated within this form by selecting the Add button.						

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	162774.00121
		Application Number	
Title of Invention	METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.

When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status	Pending	Remove	
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
	Continuation of	16152606	2018-10-05

Prior Application Status	Patented	Remove			
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
16152606	Continuation of	15538911	2017-06-22	10123074	2018-11-06

Prior Application Status	Expired	Remove	
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
15538911	a 371 of international	PCT/US2015/067464	2015-12-22

Prior Application Status	Expired	Remove	
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
PCT/US2015/067464	Claims benefit of provisional	62095504	2014-12-22

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX) the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Application Number	Country ⁱ	Filing Date (YYYY-MM-DD)	Access Code ⁱ (if applicable)

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	162774.00121
		Application Number	
Title of Invention	METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS		

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐	This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013. NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.
--------------------------	---

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	162774.00121
	Application Number	
Title of Invention	METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS	

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	162774.00121
		Application Number	
Title of Invention	METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS		

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

☐ Assignee	☐ Legal Representative under 35 U.S.C. 117	☐ Joint Inventor
☐ Person to whom the inventor is obligated to assign.	☐ Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

--	--

Name of the Deceased or Legally Incapacitated Inventor:

If the Applicant is an Organization check here. ☐

Prefix	Given Name	Middle Name	Family Name	Suffix

Mailing Address Information For Applicant:

Address 1			
Address 2			
City		State/Province	
Country ¹		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	162774.00121
		Application Number	
Title of Invention	METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS		

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Assignee 1							
Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.							
If the Assignee or Non-Applicant Assignee is an Organization check here.				☐			
Prefix	Given Name	Middle Name	Family Name	Suffix			
Mailing Address Information For Assignee including Non-Applicant Assignee:							
Address 1							
Address 2							
City			State/Province				
Country i			Postal Code				
Phone Number			Fax Number				
Email Address							
Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.							

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	162774.00121
		Application Number	
Title of Invention	METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS		

Signature:

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). **However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).**

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Shannon L. Vieau/			Date (YYYY-MM-DD)	
First Name	Shannon L.	Last Name	Vieau	Registration Number	77530
Additional Signature may be generated within this form by selecting the Add button.					

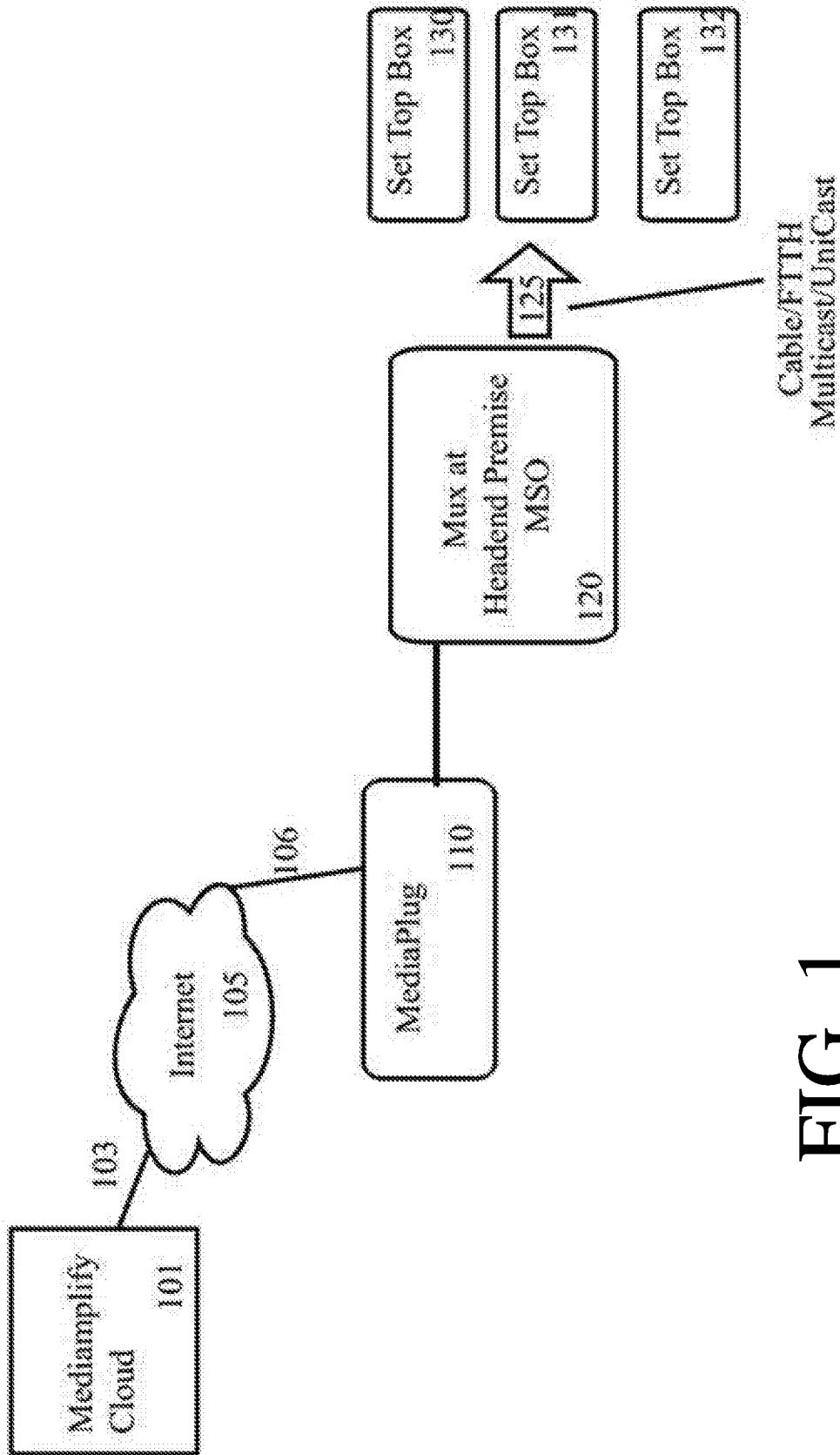


FIG. 1

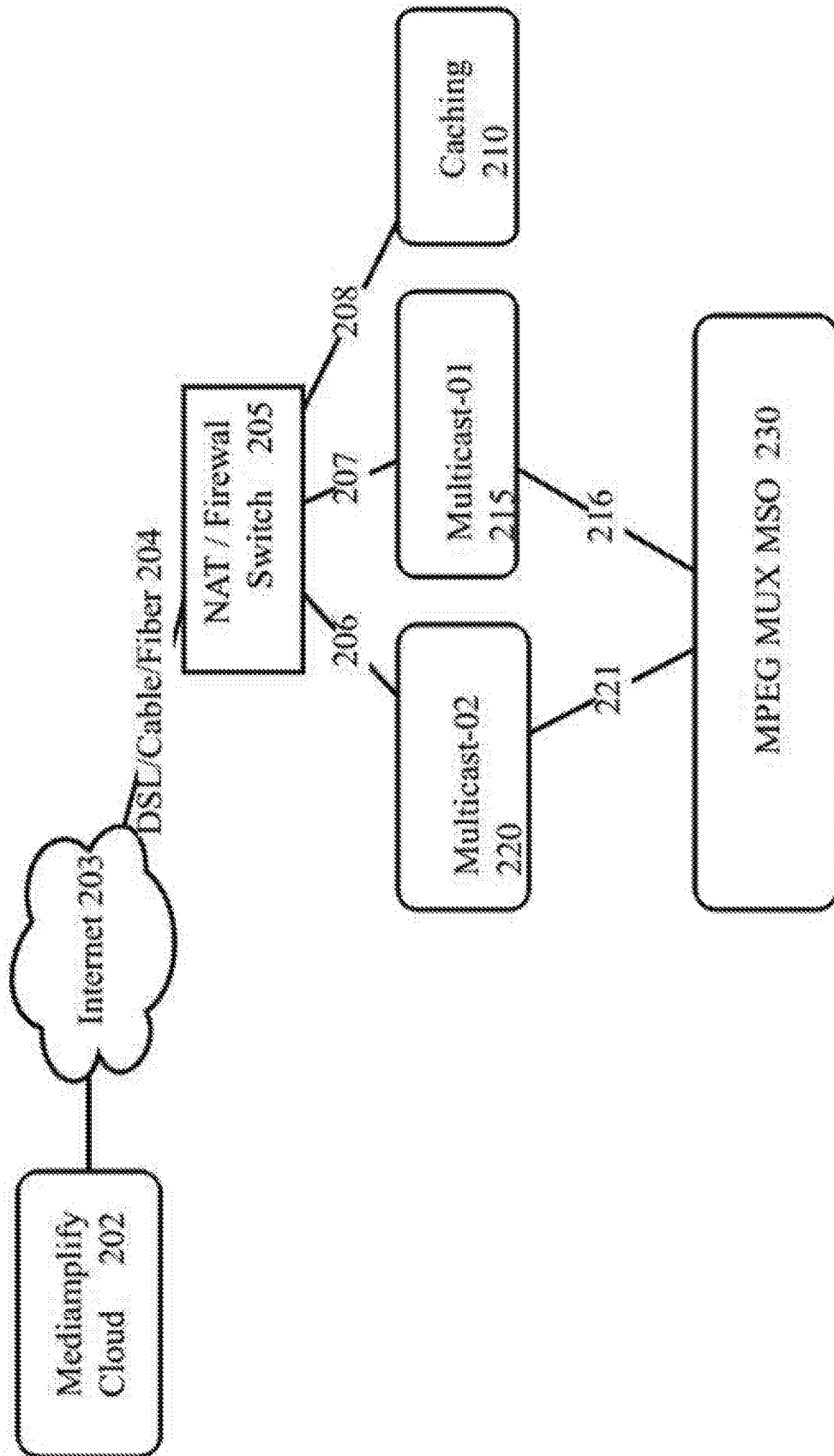
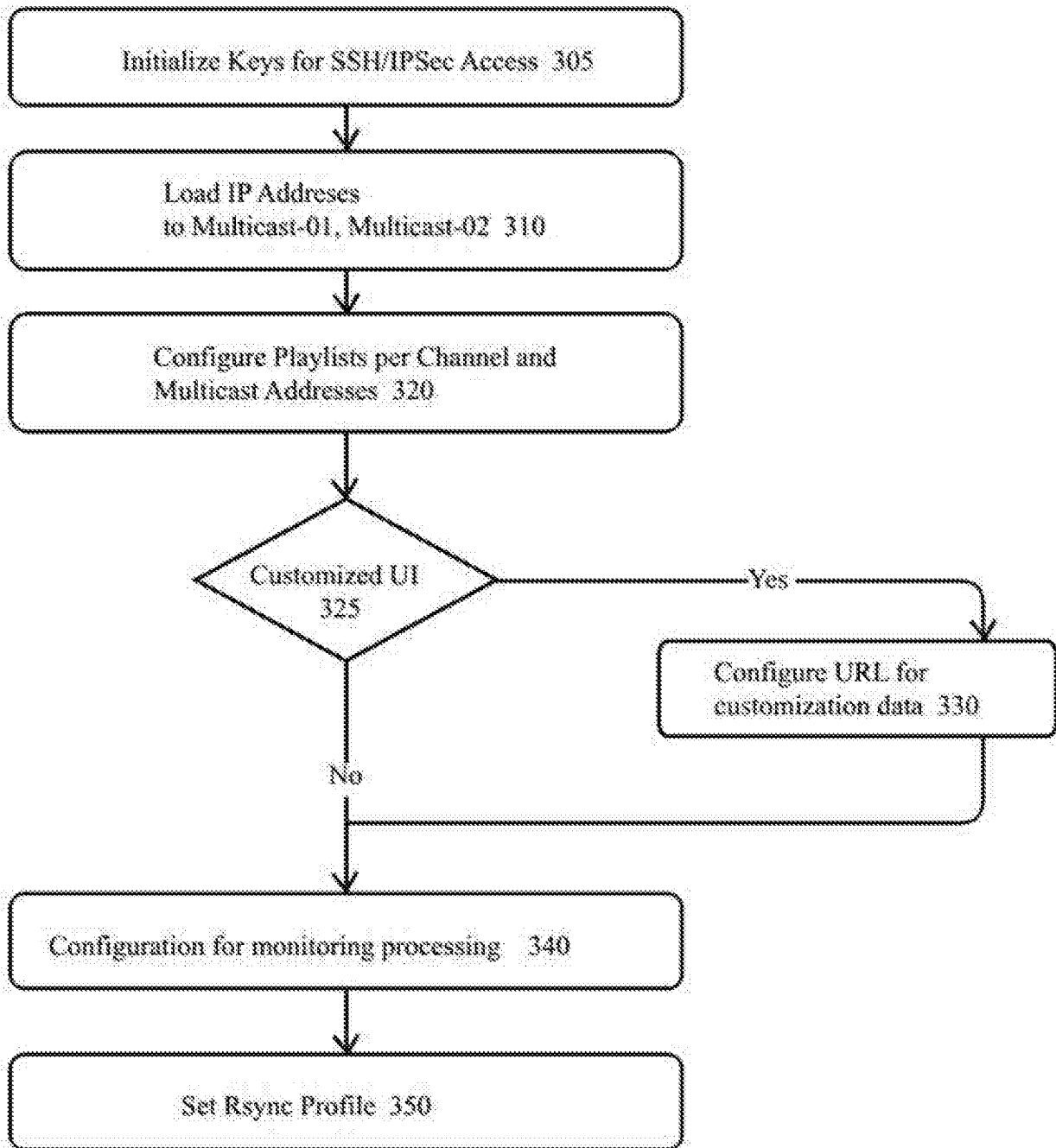
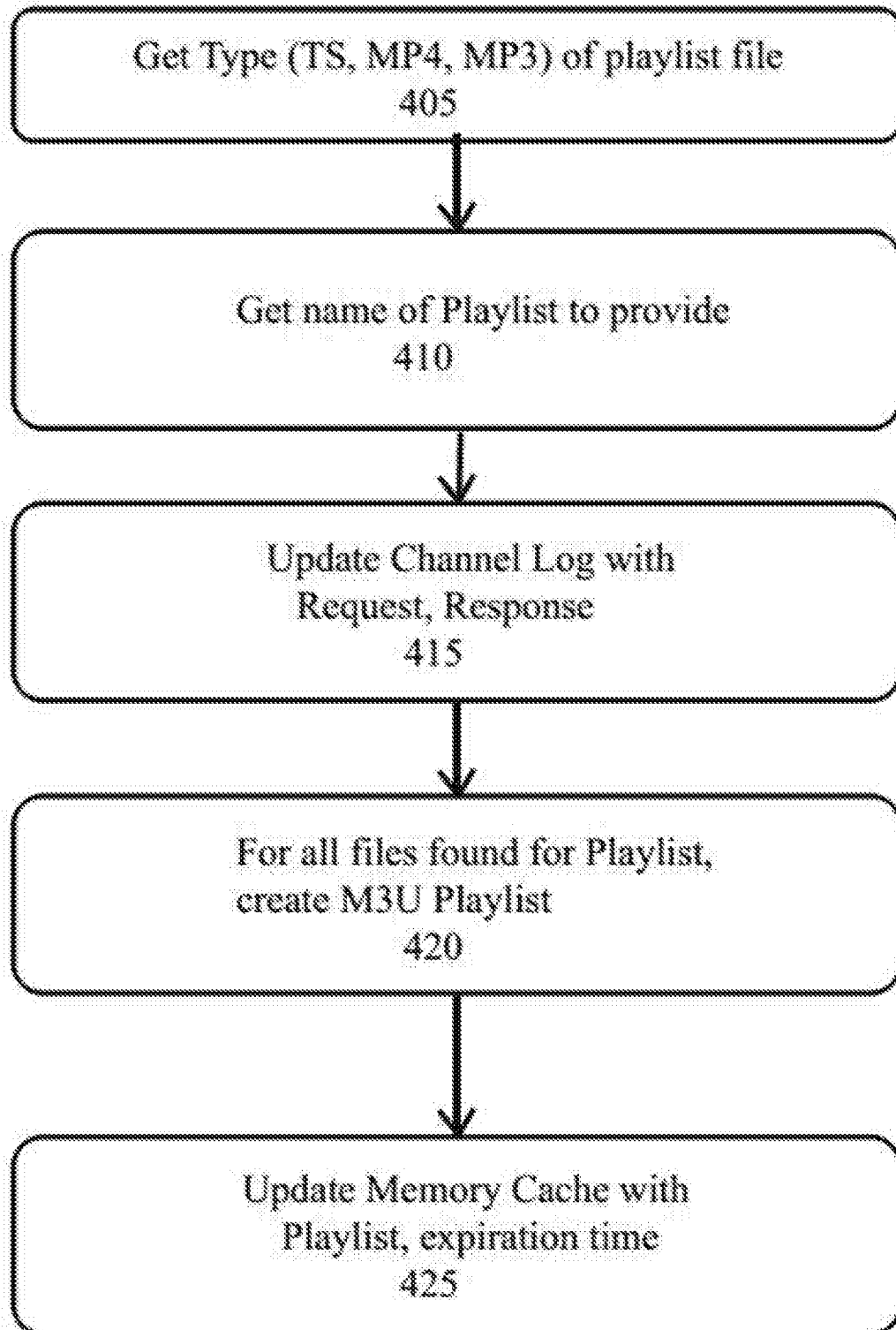


FIG. 2

**FIG. 3**

**FIG. 4**

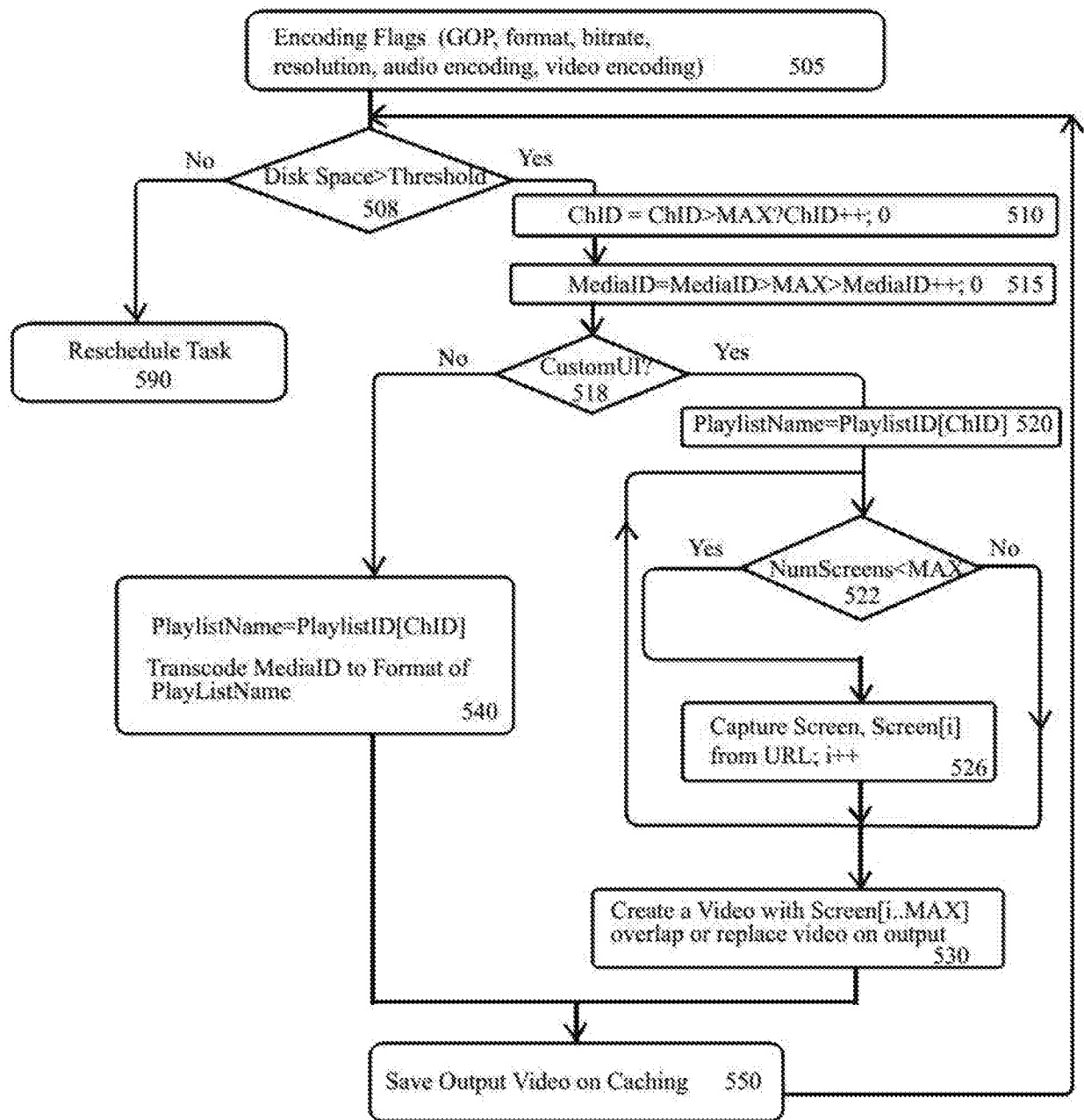
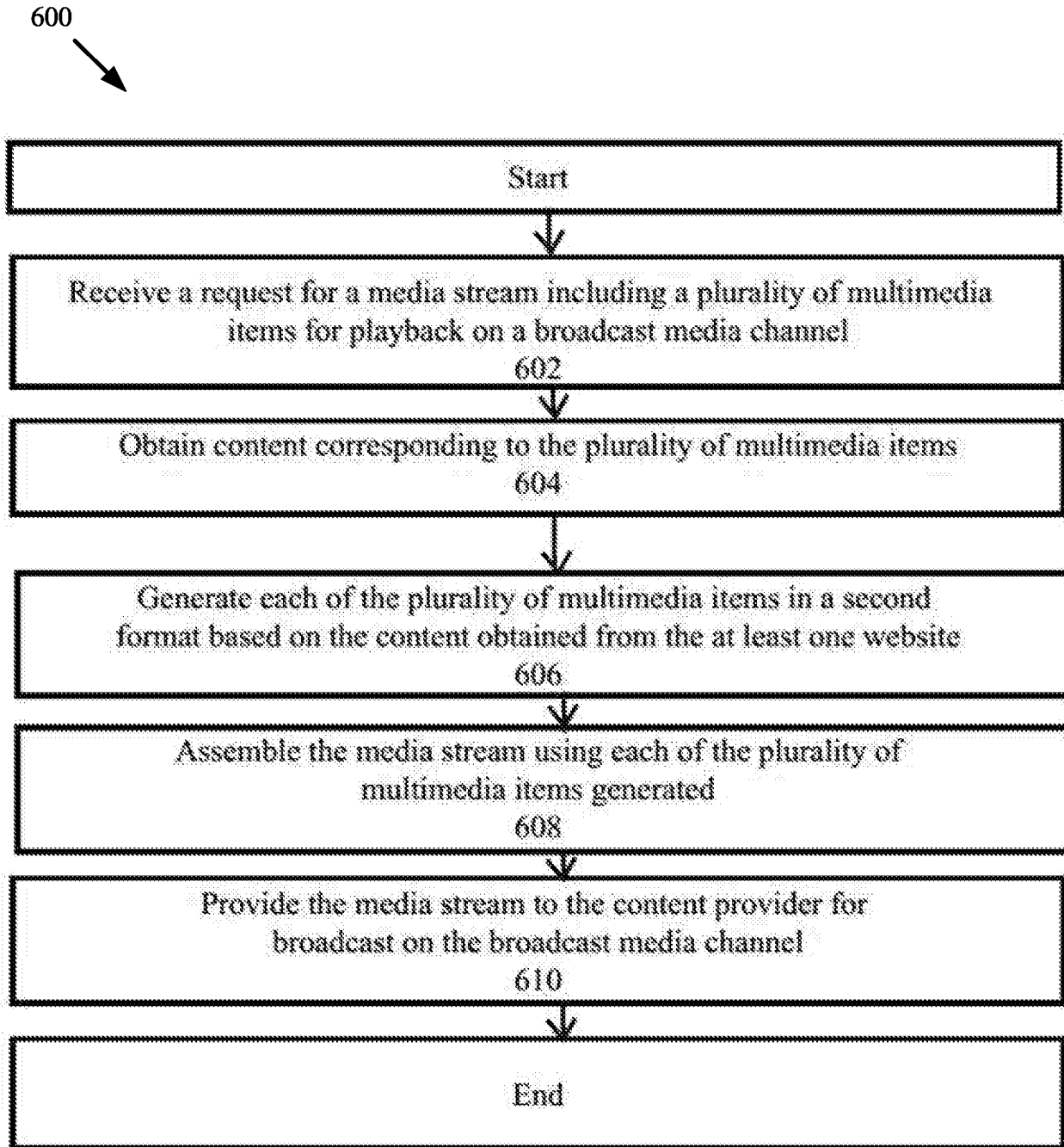


FIG. 5

**FIG. 6**

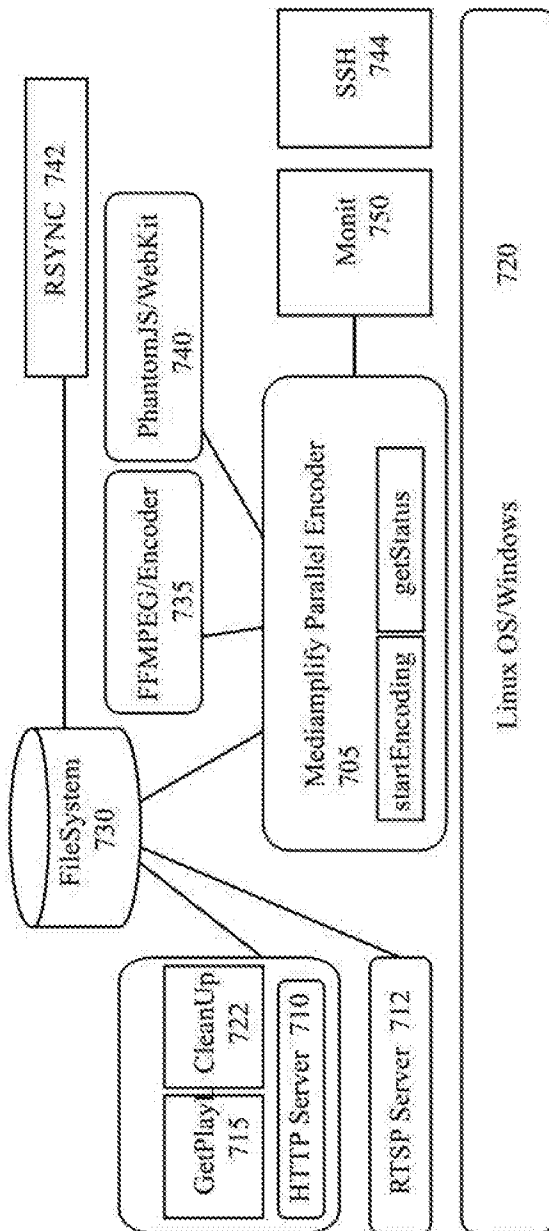
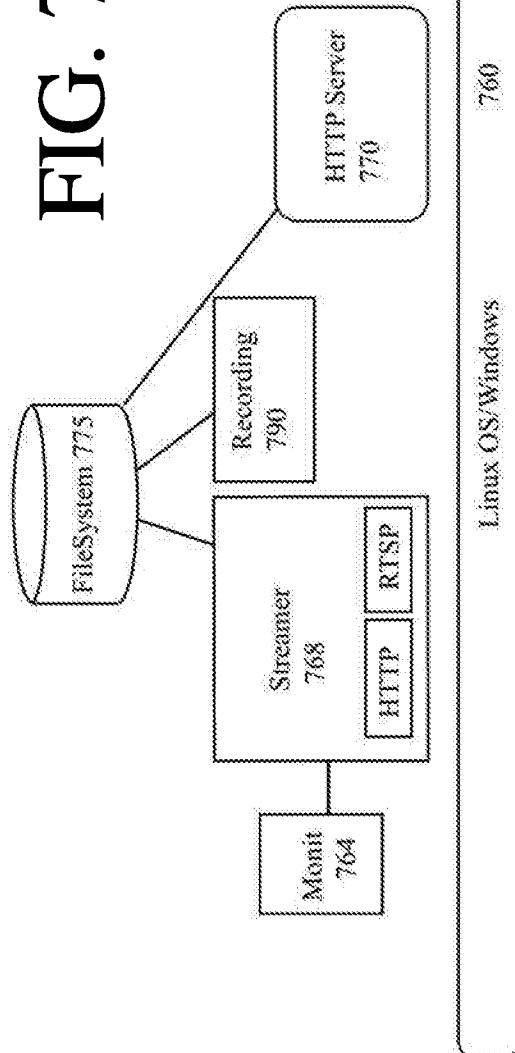


FIG. 7



Multicast-01 and Multicast-02

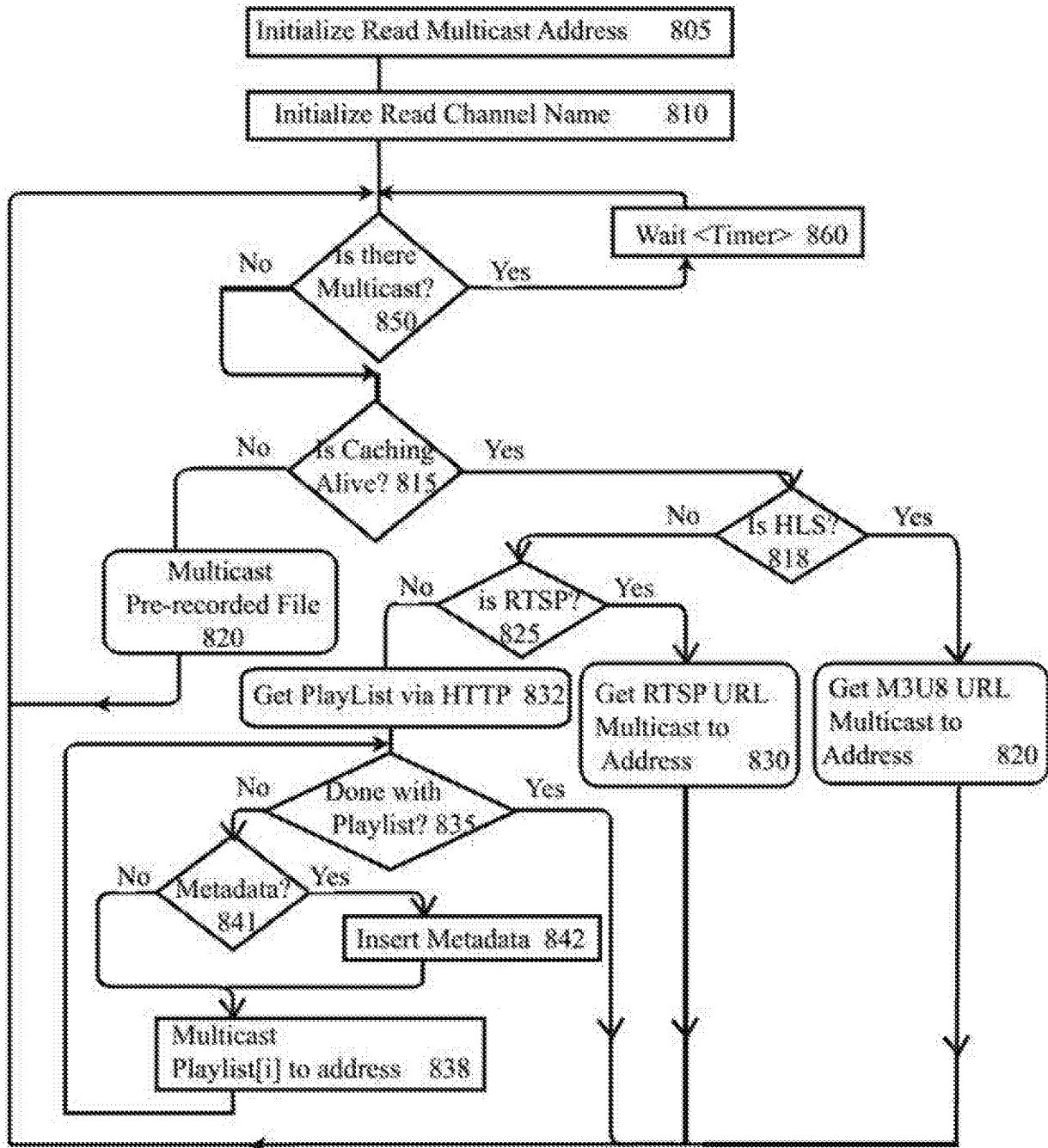


FIG. 8

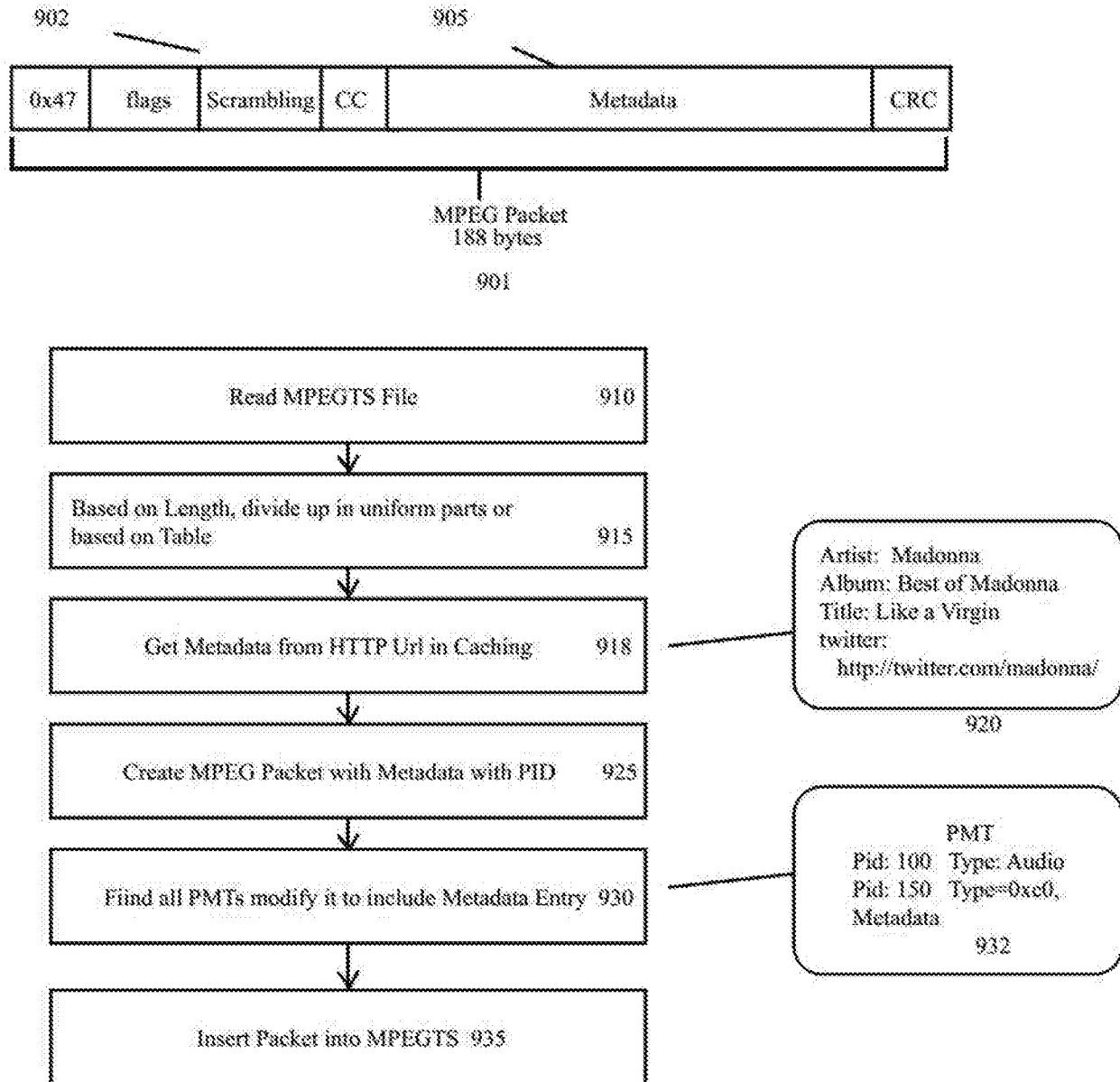


FIG. 9

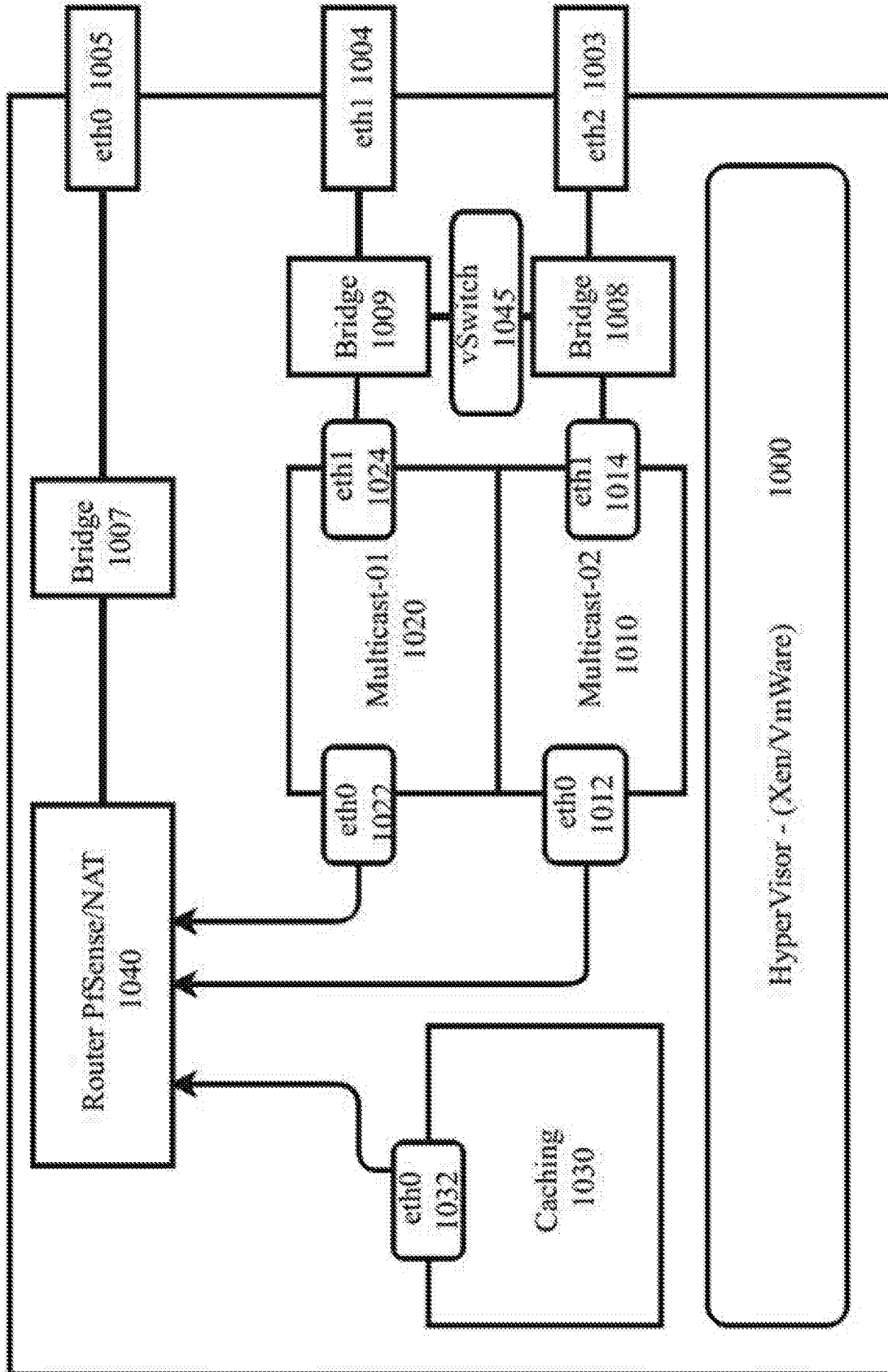


FIG. 10

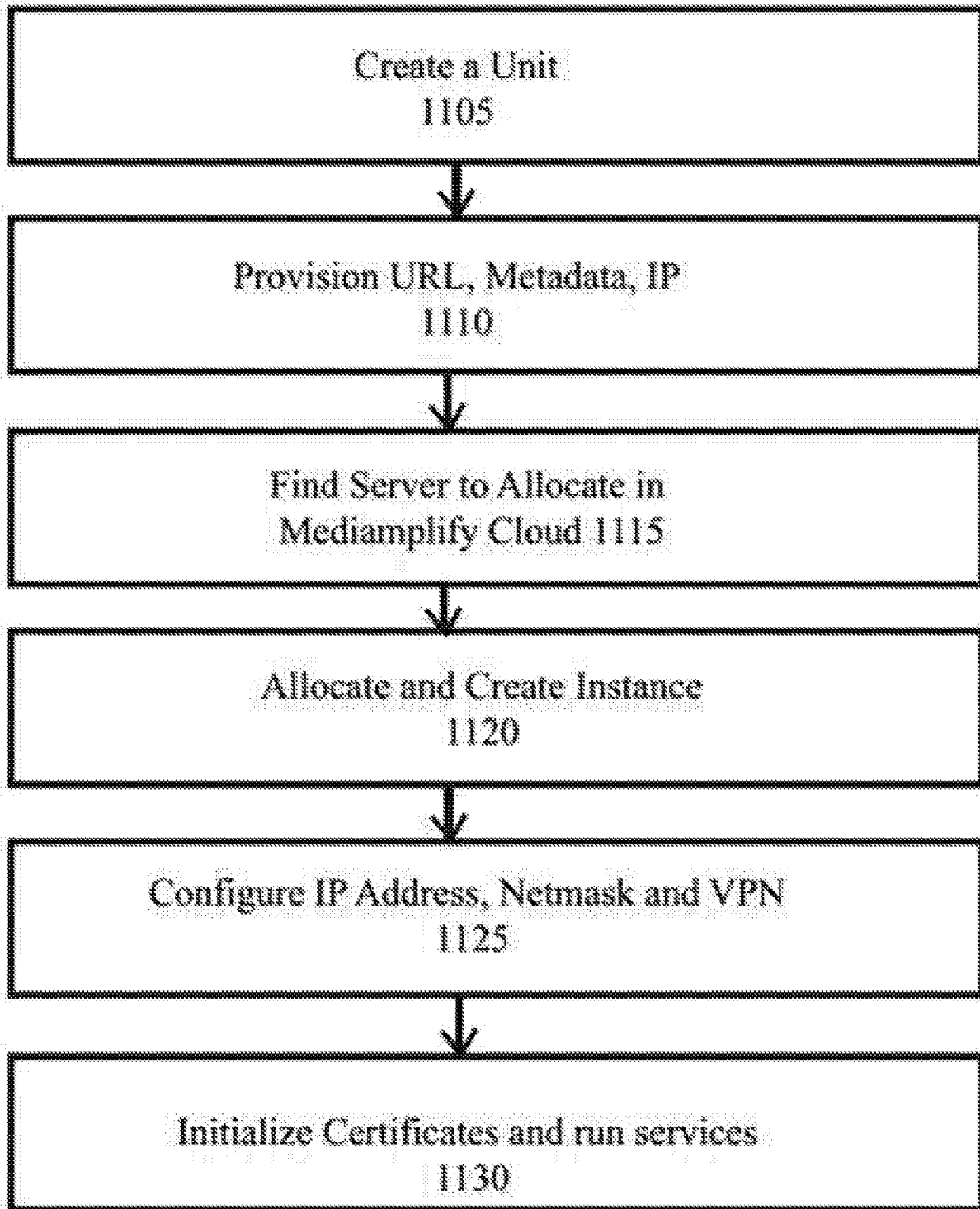
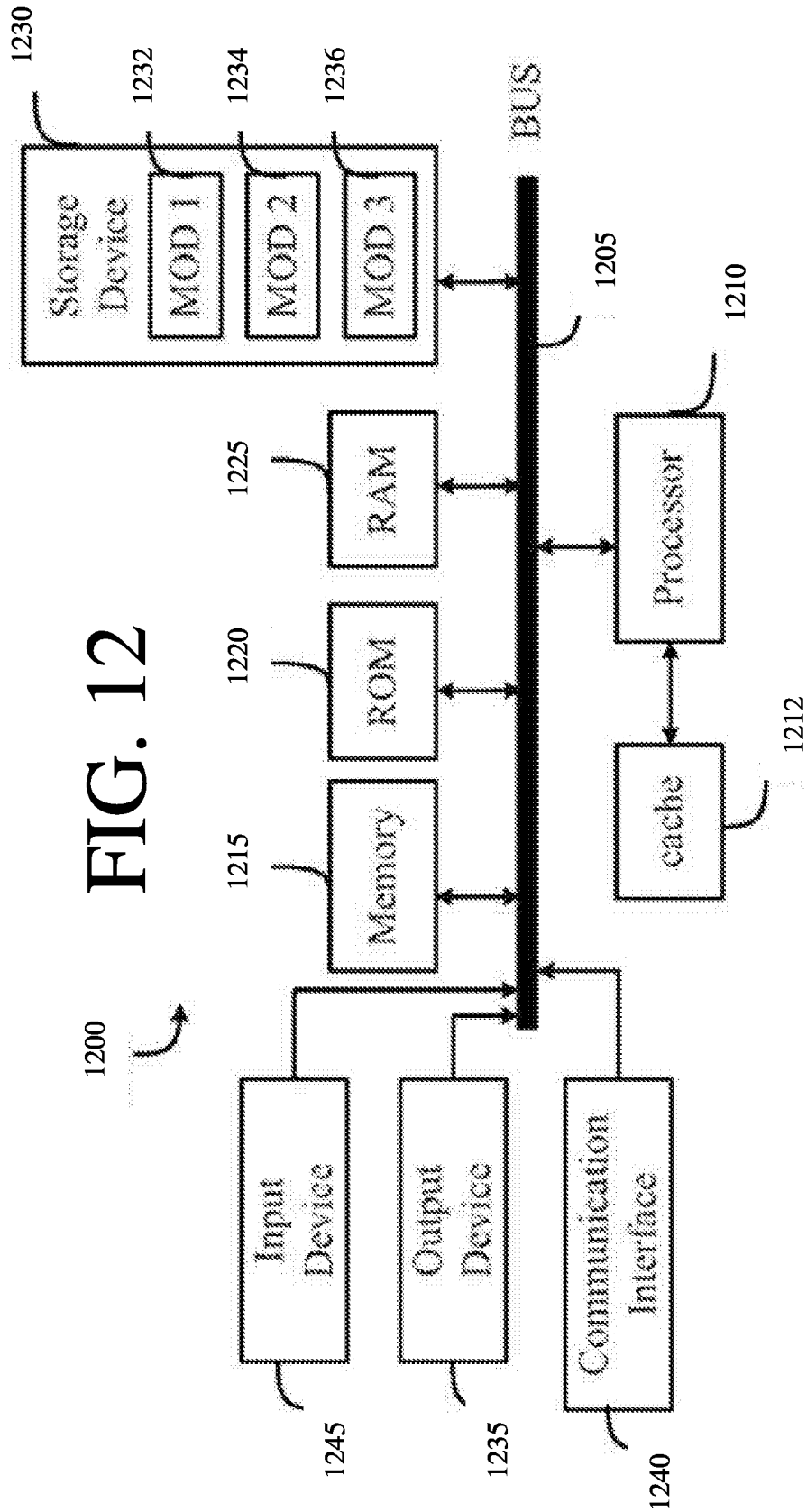
**FIG. 11**

FIG. 12



DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

**Title of
Invention**

METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS

As the below named inventor, I hereby declare that:

This declaration ☐ The attached application, or
is directed to:

☒ United States application or PCT international application number 15/538,911
filed on June 22, 2017.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

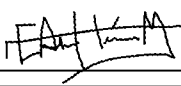
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Edwin A. Hernandez-Mondragon Date (Optional) : _____

Signature:  _____

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.



(51) International Patent Classification:
H04N 21/84 (2011.01)

(21) International Application Number:
PCT/US2015/067464

(22) International Filing Date:
22 December 2015 (22.12.2015)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
62/095,504 22 December 2014 (22.12.2014) US

(72) Inventor; and

(71) Applicant : **HERNANDEZ-MONDRAGON, Edwin A.**
[US/US]; 4890 Nw 101 Avenue, Coral Springs, Florida
33076 (US).

(74) Agent: **RODRIGUEZ, Roberto**; 525 Okeechobee Blvd.,
15th Fl, West Palm Beach, Florida 33401 (US).

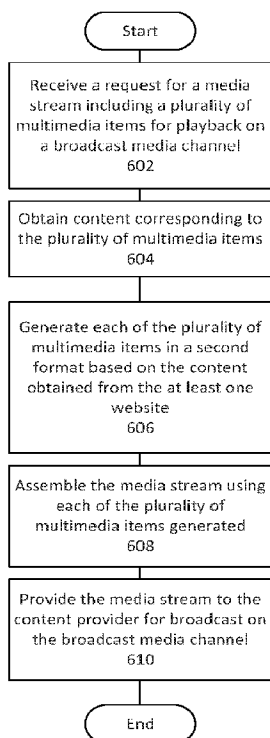
(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE,

[Continued on next page]

(54) Title: METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS

600



(57) Abstract: Systems, methods, and computer-readable media for delivering multimedia content from the cloud to cable operators are disclosed. A device located at the cable headend or implemented in the cloud can receive a request for at least one media stream for playback on a broadcast media channel. Content corresponding to a plurality of multimedia files in the media stream can be obtained from the internet or a cloud based service. The content can be used to generate the multimedia files in a format that is compatible with the cable operator. The multimedia files can be used to assemble the at least one media stream which can be provided to the cable operator for broadcast on the broadcast media channel.

CLAIMS

What is claimed is:

1. A computer-implemented method comprising:
 - 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;
 - obtaining content corresponding to the plurality of multimedia items from at least one website offering the content in at least one first format;
 - generating each of the plurality of multimedia items in a second format based on the content obtained from the at least one website, wherein the second format is compatible with the at least one content provider;
 - assembling the at least one media stream using each of the plurality of multimedia items generated; and
 - providing the at least one media stream to the content provider for broadcast on the broadcast media channel.
2. 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.
3. 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.
4. 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 website.
5. 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.

6. The method of claim 1, further comprising:
identifying the at least one website based on a channel identifier associated with the broadcast media channel.
7. 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.
8. The method of claim 3, further comprising:
detecting a change at the at least one website corresponding to at least one of the plurality of multimedia items;
in response to detecting the change, retrieving a new plurality of screen captures from the at least one website for the at least one of the plurality of multimedia items; and
reassembling the at least one of the plurality of multimedia items using the new plurality of screen captures to yield an updated multimedia item.
9. The method of claim 1, wherein the content provider is a cable television operator or a satellite television operator.
10. The method of claim 1, wherein providing the at least one media stream to the content provider comprises streaming the at least one media stream to an MPEG multiplexer associated with the content provider.
11. The method of claim 1, further comprising:
provisioning, on at least one server, at least one virtual machine for performing the receiving, obtaining, generating, assembling, and providing.
12. A system comprising:
at least one processor;
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:

receive, from a content provider, a request for a multimedia content for playback on a broadcast media channel;

retrieve, from a cloud based service offering the multimedia content in a first format that is not compatible with a required format associated with the content provider, a plurality of screen captures corresponding to a video component of the multimedia content and at least one audio file corresponding to an audio component of the multimedia content;

merge the plurality of screen captures with the at least one audio file to create the multimedia content in the required format; and

send the multimedia content to the content provider.

13. The system of claim 12, further comprising:

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

14. 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.

15. The system of claim 12, wherein the request for the multimedia content comprises a request for a plurality of multimedia streams for playback on a plurality of broadcast media channels.

16. The system of claim 12, wherein the multimedia content is sent to a broadcast internet protocol (IP) address associated with the content provider.

17. A non-transitory computer-readable storage medium having stored therein instructions which, when executed by a processor, cause the processor to perform operations comprising:

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;

obtaining content corresponding to the plurality of multimedia items from at least one website offering the content in at least one first format;

generating each of the plurality of multimedia items in a second format based on the content obtained from the at least one website, wherein the second format is compatible with the at least one content provider;

assembling the at least one media stream using each of the plurality of multimedia items generated; and

providing the at least one media stream to the content provider for broadcast on the broadcast media channel.

18. The non-transitory computer-readable storage medium of claim 17,

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

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.

19. 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.

20. 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

in response, provide a previously recorded media stream to the content provider.

21. The non-transitory computer-readable storage medium of claim 17, wherein assembling the at least one media stream comprises inserting at least one MPEG packet including metadata corresponding to the multimedia item.

22. A computer-implemented method comprising:

provisioning, on at least one server, a first virtual machine configured to obtain and cache multimedia content from at least one cloud-based service;

provisioning, on the at least one server, a second virtual machine communicatively coupled to the first virtual machine and to a cable operator, wherein the second virtual machine is configured to multicast the multimedia content from the first virtual machine to the cable operator; and

provisioning, on the at least one server, a third virtual machine communicatively coupled to the first virtual machine, the second virtual machine, and the cable operator, wherein the third virtual machine is configured to monitor an output from the second virtual machine to determine if a failure condition has occurred.

23. The method of claim 22, wherein provisioning the first virtual machine, the second virtual machine, and the third virtual machine comprises:

configuring at least one digital certificate to provide access to the multimedia content; and

configuring at least one internet protocol (IP) address corresponding to a multicast address for the cable operator.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Edwin Hernandez-Mondragon

Application No.: Not Yet Assigned

Confirmation No.: Not Yet Assigned

Filed: Herewith

Art Unit: Not Yet Assigned

For: **METHOD, SYSTEM, AND APPARATUS FOR
MULTIMEDIA CONTENT DELIVERY TO
CABLE TV AND SATELLITE OPERATORS**

Examiner: Not Yet Assigned

PRELIMINARY AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Prior to examination on the merits, please enter the following claim amendments and remarks into the file of the above-identified U.S. patent application.

Amendment to the Specification begins on page 2 of this paper.

Remarks/Arguments begin on page 3 of this paper.

AMENDMENT TO THE SPECIFICATION

Please replace paragraph [0001] of the present application with the following amended paragraph.

[0001] This application is a continuation of U.S. Patent Application No. 16/152,606, which was filed October 5, 2018, and is a continuation of U.S. Patent Application No. 15/538,911, which was filed June 22, 2017, which is a National Stage Entry of International Patent Application No. PCT/US2015/067464, which was filed on December 22, 2015, which claims priority to U.S. Provisional Application 62/095,504, which was filed on December 22, 2014. The complete disclosures of which are hereby incorporated herein by reference in their entireties[[y]].

REMARKS

The specification is being amended to update the priority information. No new matter is being added. Entry of the amendment is respectfully requested.

Applicant believes that no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 50-1943, under Order No. 162774.00121 from which the undersigned is authorized to draw.

Dated: December 30, 2019

Respectfully submitted,

By: /Shannon L. Vieau/
Shannon L. Vieau
Registration No.: 77530
FOX ROTHSCHILD LLP
777 S. Flagler Dr.
Suite 1700 West Tower
West Palm Beach, Florida 33401
(561) 804-4467
(561) 835-9602 (Fax)
Attorneys/Agents For Applicant



DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

Published:

— *with international search report (Art. 21(3))*

METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims priority to U.S. Provisional Application 62/095,504, filed December 22, 2014, the complete disclosure of which is incorporated herein by reference in its entirety.

FIELD OF THE DISCLOSURE

[0002] The present disclosure provides a mechanism for delivering multimedia content from a cloud-based system to cable or satellite content providers.

[0003] The disclosure describes a novel method and a system for continuous media delivery and secured synchronization of multimedia files that are broadcasted to set top boxes or subscriber units in the field that are connected to IPTV or Cable Systems. The present technology can securely connect to a cloud-based platform (e.g. OpenStack, Amazon EC2, Mediampify Cloud, etc.), creates a set of multimedia files (e.g. MPEG4 movies) into a secured repository (e.g. Secured File System, Linux/Windows, etc.), modifies those files according to certain rules as defined by the method herein, and reproduces those signals via a multicast video stream (e.g. User Datagram Protocol (UDP) multicast, etc.) encapsulated in a Transport Stream (TS) frame that can be a multiple transport stream (several transports in one TS frame) or a single transport stream (one transport stream according to the MPEG-2 Part 1 Specification or similar multimedia streaming that is compatible with MPEG-TS at a predetermined rate or at a variable bit rate).

BACKGROUND

[0004] Cable operators, Multiple System Operators (MSO), and Digital Satellite Systems (DSS) deliver media content by utilizing satellite, Radio Frequency(RF) and Integrated Receiver and Decoder (IRD) technologies, which provide outputs that can include Asynchronous Serial Interface (ASI) signal formats. Additionally, MSOs and DSSs use dedicated hardware encoders and transcoding systems if the source video/audio is incompatible with the set top boxes of the cable or satellite operator. In general, the video/audio content delivered via the satellite to the cable or satellite operator arrives via wireless link or receiver, which is processed by an IRD that receives the stream from the satellite and can ultimately broadcast that signal to the cable operator head end

in several formats. In addition, some systems may include multicast units connected with IRDs that tune to the right transponder system.

[0005] Satellite systems are used to deliver data (e.g. TV, radio, Video-on-Demand, multimedia streams) from a particular source (e.g. third-party content provider) to cable head end systems or other satellite systems. Satellite delivery is performed via a broadcast signal containing digital pictures and audio inside a transponder frequency. Transponders are radio frequency (RF) space allocated in a particular satellite.

[0006] For example, a third-party content provider can maintain multimedia files in CD/DVDs, pre-recorded storage, or as pre-recorded files that are reproduced in a particular audio or video encoding format using a video or audio encoder (e.g. MP3, H.264, AC3, and others). The audio and video is then made part of an RF signal that is broadcasted to the satellite system. This signal is then received by the cable or satellite operator using an antenna receptor and is decoded to generate either an analog signal (e.g. RCA Cables or any other analog interface) or digital signal (e.g. ASI, Asynchronous Serial Interface). If an analog signal is received, modern DVB (Digital Video Broadcasting) Cable and Satellite systems will encode this signal to their particular video/audio encoding requirements such that it can be broadcasted in digital packets via a multicast MPEG Transport Stream. The same occurs if a receiver decodes the signal in ASI. As such, this signal is converted from ASI to Ethernet, or simply redirected to a multicast MPEG Transport stream if arriving in a compatible encoding format for the receiving head end cable system.

[0007] When no satellite is being used, video, pictures and music, are read out from the DVD or a hard-drive containing MPEG-layer 3 or MPEG-layer 2 files that were encoded at a pre-determined bit rate according. Those video feeds can be reproduced at a synchronized timing using a multicast MPEG Transport Stream using RTP (Real-time Transport Protocol)-based multicast communication and RTCP (RTP Control Protocol)-based mechanisms, as well as standard UDP (User Datagram Protocol) multicast streams with proprietary timing.

[0008] Additionally, IPTV systems can provide mechanisms to broadcast a signal using the multicast protocol in MPEG transport streams to a customer premises with compatible set top boxes (same encoder, same streams, encryption keys, etc). A compatible set top box is such that when connected to the cable TV system it can properly decode video/audio from the cable operator's head

end system. Some of these IPTV systems rely on CDN (Content Delivery Networks) that enable distribution of multimedia files to IP-enabled devices. For example, a mechanism can be provided whereby a head end content (MSO) that is being broadcasted to a cable subscriber is also available to an IP-enabled device such as a smartphone, PC, or tablet computer.

SUMMARY

[0009] Disclosed are systems, devices, methods, and non-transitory computer-readable media for media delivery from a cloud or IP-based distribution network, or CDN (Content Delivery Network) to MSO (Multiple System Operators) or head-ends that include cable and satellite delivery mechanisms. The present technology unifies cloud-based delivery (Mediamplify cloud) with the cable-based mechanism (e.g. Comcast, Verizon FiOS).

[0010] An example computer-implemented method can receive, from a content provider such as a cable or satellite operator, a request for at least one media stream for playback on a broadcast media channel. The request for the at least one media stream can include a request for a plurality of multimedia items. Content corresponding to the plurality of multimedia items can be obtained from at least one website or cloud service that offers the content in at least one first format. Based on the obtained content, the plurality of multimedia files can be generated in a second format that is compatible with the content provider. The media stream can be assembled using each of the multimedia items generated in the second format. The media stream can be provided to the content provider for broadcast on the broadcast media channel.

[0011] In some aspects of the present technology, obtaining the content can include retrieving at least one audio file corresponding to an audio component of the multimedia item and retrieving a plurality of images as screen captures that can correspond to a video component of the multimedia item. Generating the multimedia files in the second format can include combining the plurality of images and the at least one audio file to create each of the multimedia items.

BRIEF DESCRIPTION OF THE DRAWING

[0012] There are shown in the drawings, embodiments which are presently preferred, it being understood, however, that the disclosure is not limited to the precise arrangements and instrumentalities shown

[0013] FIG. 1 shows an example block diagram illustrating an exemplary head end (MSO);

[0014] FIG. 2 shows an example block diagram of the apparatus located at the MSO facility (mediaplug);

[0015] FIG. 3 shows an example method for initialization of Mediaplug components;

[0016] FIG. 4 shows an example method to obtain list of files to multicast to a cable operator MSO;

[0017] FIG. 5 shows an example method for encoding video and audio files;

[0018] FIG. 6 shows an example method for providing multimedia content to a cable operator;

[0019] FIG. 7 shows an example block diagram of example software components of the Mediaplug;

[0020] FIG. 8 shows an example method to multicast from a component in the Mediaplug;

[0021] FIG. 9 shows an example method to insert metadata into in an MPEG Transport Stream;

[0022] FIG. 10 shows an example block diagram for a Virtualized Mediaplug

[0023] FIG. 11 shows an example method to initialize virtual mediaplug components; and

[0024] FIG. 12 shows an example possible system embodiment for implementing various embodiments of the present technology

[0025] While the present technology is amenable to various modifications and alternative forms, specifics thereof have been shown by way of example in the drawings and will be described in detail. It should be understood, however, that the intention is not to limit the present technology to the particular embodiments described. On the contrary, the intention is to cover all modifications, equivalents, and alternatives falling within the spirit and scope of the present technology.

DETAILED DESCRIPTION

[0026] The following description should be read with reference of the drawings, in which like elements are numbered in similar fashion. The drawings are not necessarily at scale and are not intended to limit the scope of the disclosure. Those skilled in the art understand that there are

alternatives that may be used as well which are also considered to be within the scope of the disclosure.

[0027] Generally, the disclosed technology pertains to a delivery mechanism for providing multimedia content to cable systems without the use of a satellite system in a fault-tolerant and reliable fashion. FIG. 1 illustrates a block diagram that includes a Mediaplify Cloud 101. The cloud 101 can refer to a set of virtualized instances or non-virtualized instances of one or more servers that provide access to archives and digital files with media content stored in them. For example, the cloud 101 can be implemented using VMWave or Xen and OpenStack, or simply reside in Amazon Web Services or Rackspace. In addition, special provisioning can be provided in cloud 101 for secured access.

[0028] 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 communication link 106 can be a DSL, Cable Modem, Wireless WAN, Fiber, Metro Ethernet, etc. and can be linked with the MediaPlug 110 unit. The Mediaplug 110 can reside at the “MSO” facility and can be collocated with all the cable or satellite operator equipment. The MSO is a facility used by the Cable Operator to receive all TV and Radio Programming that the cable operator will then multiplex, re-encode, and distribute from the MSO to a set of subscriber units with set top boxes, or modulate the signal in TV analog channels (2-60+).

[0029] One function of the MediaPlug 110 is to provide multimedia content, e.g., video and audio, to an MPEG multiplexer at the headend 120. The content can be pre-formatted in MPEG Transport Streams that the multiplexer 120 (e.g. Arris TMX-2010) will then be able to capture, reformat in any way the operator requires, and deliver to the cable operator’s subscribers via Coaxial Cable 125 or any other means suitable for a multicast or unicast delivery to its customers with “Set Top boxes” 130, 131, 132. A “Set Top Box” is customer premise equipment that will be able to decode and

display in a TV set or other screen display, via a signal received by its HDMI or analog input, the contents of the TV programming the cable operator offers.

[0030] The Mediaplug 110 can be a computer or server or set of computers of servers that can communicate with the Cloud 101 using a standard Local Area Network (e.g. Gigabit Ethernet). The Mediaplug 110 can store, encode, and transmit multimedia files in the format that the cable operator at its MSO requires. This cable format may include audio, video, and metadata (subtitles, control data, and any additional component that can be packaged in an MPEG Packet that is part of the MPEG Transport Stream). In one embodiment, Mediaplug 110 can include components such as a caching unit, and one or more multicasting servers.

[0031] FIG. 2 illustrates an example configuration of the hardware components of Mediaplug 110 which includes three servers. A server is a computer device, usually rack mountable unit with volatile memory such as RAM, one or more micro-processors, and non-volatile memory such as a hard disk. However, one skilled in the art will recognize that the present technology is not limited to a particular configuration and can be varied according to different specifications. FIG. 2 illustrates Mediaplug Cloud 202 which is connected to the Internet backbone 203. Link 204 (e.g. DSL, Cable Modem, Fiber) provides connectivity between cloud 202 and a Network Address Translator unit 205 (e.g. Cisco RVS4000, or any other NAT device) which can provide Gigabit Ethernet switching capabilities. The lines 206, 207, and 208 show Gigabit Ethernet links, however one skilled in the art will understand that Gigabit Ethernet or a Wireless LAN using 802.11g/n would be also a suitable interface to be used in a Mediaplug configuration. The Caching unit 210 can be the main storage component in the system and it can contain all of the multimedia files in the format required by the cable operators, such as the Transport Stream format. The caching unit can communicate with Multicast-01 215 and Multicast-02 220. The two Multicast units 215, 220 can pull or obtain information from the caching unit via TCP/IP or UDP, using protocols such as HTTP (Hypertext Transport Protocol) or RTSP (Real-time Streaming Transport). The caching unit can also encode and transcode the multimedia files it downloads from the Cloud 202. The caching unit can also keep updated information of all the metadata and create customizable screens that can be converted into video formats compatible with the Transport Stream content that will be provided to the cable operator at its MSO. MPEG MUX MSO 230 can correspond to a program residing in a computer system that processes and handles the MPEG streams from multiple sources. The MUX

230 can also function as the bridge between the source of the signal and the customer's set top box units. A non-limiting example program would be the CherryPicker DM6400 by MOTOROLA. Each of the components or modules of the Mediaplug can include software for performing functions and/or methods according to the present technology.

[0032] FIG. 3 illustrates an example method that can be used to configure and provision the units at boot-time. Each unit can initialize keys for SSH/IP Sec access at 305. For example, the units can use IPsec and SSH Tunnel keys that can be stored in the administrator user account. The keys can be generated by the Mediaplify Cloud that are private keys or certificates, shared secrets or similar components by which the Mediaplug can connect securely with the Mediaplify cloud. Each cable operator can provide custom-based IP addressing at 310 for the Gigabit Ethernet ports that connect to the operators' network. Changing the IP addresses of the Multicast-01 and/or Multicast-02 refers to the IP address by which the links 221 and 216 in FIG. 2 are linked to the MPEG MUX MSO unit. A change of the IP address can refer to the 'ifconfig' command which is used in Linux-based systems and that can be changed in an Ubuntu box at /etc/network/interfaces file. Similarly, the network routing can be changed if the multicast address cannot be routed to the default gateway which points to the 205 NAT, but to 221 and 216 respectively for Multicast-02 and Multicast-01. In general, the 239.*.* network address may be routed to those interfaces.

[0033] At step 320, the Mediaplug can configure playlists per channel and multicast address. The playlist and channel configuration can be obtained from the cable/satellite operator and can include any number of channels for broadcasting multimedia content to end customers. As an example, the channels may include music channels corresponding to different music genres, e.g. rock, alternative, classical, jazz, hip hop, etc. Based on the particular genre, a corresponding playlist can be selected and/or configured. The Mediaplug can also determine the multicast address for each of the channels.

[0034] In some configurations a customizable user interface (UI) can be added to the output video MPEG Transport stream. 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 particular channel or for all the channels. The custom user interface variable can be

uniquely configured per channel in the Mediaplugin. The mediaplugin can also monitor 340 all of the processes to ensure stability and continuous, uninterrupted operation. The initialization of the Mediaplugin can also include setting the RSYNC profile 350. The RSYNC profile can be used to update and synchronize media content with the cloud when the Mediaplugin determines that the content has changed or been modified.

[0035] As described above, the Mediaplugin can broadcast the multimedia MPEG stream using the programmed IP Address in multicast-01 and multicast-02 according to the method illustrated in FIG. 3. In FIG. 4, an example method is shown for obtaining the list of files to playback or broadcast to the 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 multiple channels of different types and name, each channel can have a unique identifier corresponding to the name of the playlist. For example channel name “Cool” or “Rock,” 410 are names that can identify the channel to be retrieved from the caching server. The activity log in the request can also be updated keeping track what step of the process is being 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. 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.

[0036] As the requests arrive at the “Caching” unit from the multicasting units, the “Caching” unit can be configured to perform parallel encoding for all the different channels available from the unit. FIG. 5 illustrates an example method that can be implemented by the Mediaplugin, and in particular, by the “Caching” unit. At step 505, encoding flags or input parameters can be received which may include GOP (Group 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 addition, a “format” parameter can be received which refers 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 Mediaplugin. Hence in 508 the method

checks for sufficient space left in the memory or hard drive. This task can be run on a thread together with all the other tasks that are working in parallel in order to speed up the processes of encoding and transcoding.

[0037] Several indexes or identifiers by the name “ChID,” (these integers preferably no more than an integer value from 1 to the maximum number of channels) begin (e.g. MAX could be 50) to be generated by the caching unit 510. This method can be performed for all the channels and all media linked to that particular channel identified by “MediaID” 515, in this particular case the “MediaID.” The variable “MAX” in this context can refer to the maximum number of media files read (e.g. 500). The data captured from the media could be “Artist,” “Author,” or any other variable from an audio file. If a video file is used this could be “program name,” “movie name,” or any associated metadata information tied to the multimedia file and the Channel Identifier (ChID) associated with it “MediaID” file.

[0038] The caching unit can add a “Custom UI,” or a customizable User Interface that is designed using Hypertext Markup Language (e.g. HTML) or a web service. A web service that matches a REST interface (Representation State Transfer) and uses Javascript Object Notation (JSON) or XML (Extensible Markup Language) to respond to a custom UI request can be used. Moreover, this custom UI can 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 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 web-service to be contacted may use the “PlaylistName” to be used for the Channel identified by the channel ID “ChID, ” retrieved using the “PlaylistID” function 520. Each new PlaylistName may contain different identifies to retrieve new images. Therefore one or more screens will be retrieved from the rendering engine as such 522 can be used to retrieve a set of screens from the web-service being contacted.

[0039] Capturing screens 526 can be done using a tool similar to PhantomJS (Webkit-based headless engine for rendering images) or QtCapture, or simply capturing screen frame buffers from

a machine running any software tool. Alternatively, the method can capture a video file from another rendering function, which can create a sequence of screens that can be used to generate a video file. Once all screens and video are captured, 530 the resulting output created can be a video file that then is either replaced or merged (multiplexed) with the original file. As an example, if an audio content file is used such as an MP3 file, this function can create a video file from all the screens captured by 526. Those screens are generated by calling a URL where the web-service is associated and creating a video file with the input audio and the captured screens. The output format can be an MPEG Transport Stream file that can be retrievable or streamed to the multicasting embodiment.

[0040] Once the output file containing the screen shoot sequence of videos encoded in H.264 (for example, or MPEG2Video) is created, the audio can be multiplexed and added to one of the encoding channels of the resulting video output and saved into the caching unit storage disk 550. The multiplexing can be done using tools such as FFMPEG or VLC or any proprietary tool that can multiplex audio and video files into a resulting MPEG Transport Stream (or MPEG-4 output, or any similar output).

[0041] FIG. 6 illustrates an example method 600 for providing multimedia content to a cable operator. At 602, a device such as the Mediaplug device receives a request from a cable/satellite operator for a media stream. A media stream can be formatted according to HTTP Live Streaming (HLS), an HTTP/RTSP playlist, or an RTSP stream. The media stream can include any number of multimedia items such as audio/video multimedia items. In some instances, the request can include a channel identifier that is associated with a particular category of multimedia items, such as a music genre corresponding to rock, classical, jazz, etc.

[0042] At 604, contents corresponding to the multimedia items can be retrieved, downloaded, or otherwise obtained from one or more websites or cloud based servers. The contents can include data corresponding to either or both of the audio and video components of the multimedia items. For example, the data corresponding to the audio portion can include a music file in an MP3 format. Similarly, the data corresponding to the video portion can include a video that is obtained directly from the cloud. Alternatively, the video component can be assembled by using one or more screen captures from a website. The screen captures can include captures of still images presented by the

website as well as captures of images from videos that are available on the website. As illustrated in FIG. 5, the screen capture process can be repeated any number of times.

[0043] The Mediaplugin can then generate 606 multimedia items in a second format based on the content obtained from the web server or cloud. That is, the Mediaplugin can convert/encode the audio file into a format that is suitable for the cable operator and it can also assemble the various screen captures to generate the video component of the media item. Once the audio and video files are created, they can be combined, multiplexed, or encoded to a format that can be utilized by the multimedia stream. For example, the audio can be multiplexed and added to one of the encoding channels of the video output. The various multimedia items can be used 608 to assemble the media stream in a format corresponding with the request (e.g. HLS, HTTP/RTSP, RTSP stream). The media stream can be provided 610 to the content provider for broadcast on the broadcast media channel.

[0044] FIG. 7 illustrates a block diagram of an example architecture of the Caching Unit components. The figure shows 720 as the main operating system, which can be Linux, Windows, or any other operating system in use. The caching unit can contain two types of operating system services HTTP 710 and RTSP 712. The RTSP service provides access so the media saved or created in the repository of the caching unit file system 730. The RTSP server can be implemented using the Live555 RTSP server or similar. Alternatively, the HTTP Server can be implemented using “nginx” or “apache” web browsers, and the RTSP Servers can be implemented using Live555 services. In the case of the HTTP Server, this can also be used to get the Playlist of files generated from the method on FIG-5 715.

[0045] The GetPlayList 715 command can be implemented as follows:

- Receive and process a request for the name of the channel or playlist to be used,
- Retrieve all the filenames ordered by date of creation of all the files in a particular directory,
- Cache all the files into cache memory (e.g. Memcache or similar tool),
- Add type of HTTP header as M3U or PLS (e.g. a text file with a list of files or URLs to play),

- Return a list of HTTP or RTSP URLs to access each video generated or stored in the caching unit.

[0046] In some embodiments, the HTTP Server can also be used to clean up, update, and delete operations. The block unit called “CleanUp” 722 is in charge of keeping up to date caching information data and/or deleting files already used or that are not required to be used anymore by the multicast unit(s). Also the HTTP Server functions can include servicing M3U8 files corresponding to the HTTP Live Streaming format and all the segments created by the HTTP Live Streaming function. As such, a HTTP Live Streaming (HLS) generation program will produce the files and segment them as needed by the encoder and can then be serviced by the HTTP Server 710. The Mediamply Parallel Encoder 705 corresponds to a block that can implement the method shown in FIG 5. The resulting outputs from the Media Parallel Encoder 605 are stored in the file system 730. The Mediamply Parallel encoder 605 can be implemented in Python and can rely on web services (such as Twisted or Django), PhantomJS, and FFmpeg. Monit 750 corresponds to a monitoring block that can ensure that the process running the “Media Parallel encoder” keeps running at all times and does not stop upon failure. Additional blocks that can be included in Mediaplug are RSYNC 742 and SSH 744. These blocks can be used to ensure synchronization and updates of new media files coming from the cloud. The RSYNC block uses the “rsync” protocol and program over ssh (Secured Socket Layer Shell) to download media from the “Mediamply Cloud” and synchronize multimedia files that are newly updated and could be part of particular Channel ID and a Playlist Name. Each new file synchronized with the Mediamply cloud has a Media ID value which the cloud can assign, and include additional metadata information such as “Artist” and “Author.” The “Mediamply Parallel Encoder” also may receive requests from other components such as getStatus or StartEncoding, indicating what file is being encoded, its progress, and what other files are in the queue for encoding.

[0047] In some embodiments, the information from getStatus or StartEncoding can be generated using a JSON message retrieved upon a request via HTTP GET to the Mediamply Parallel Encoder. A graphical user interface can then be used to plot the status of each song being encoded or provide previews of the videos being generated. Below is one non-limiting example of a JSON response made by the “Mediamply Parallel Encoder” service:

```
{“song_encoded” : “ts”, “artist”: “Madonna”, “duration”: 0, “exists_on_disk”: True, “genre”:
“Pop”, “title”: “Like a Virgin”, “music_id”: “1082863”}
```

[0048] Response regarding the status for a song being encoded or a list of songs being encoded, as follows:

```
{“music_id”: “109281”, “encoding”: “78%”, “output_file”: “/var/www/egllacast/pop/109281-
abcdef-uuid.ts”, “thumbnail” : http://mediamplify.com/images/abcdef-uuid.png” }
```

[0049] In some embodiments, there are two possible TCP/IP sockets open for listening used by the Caching component of the Mediaplugin. A) Port 80 (as an example), or the standard HTTP port, used to retrieve content, view video content generated, update/delete cached files, and access the playlists, and B) Port 9553 (as an example), or the standard Mediamplify Parallel encoder port, used to monitor and review status of the songs being encoded, the data being collected, and all other related activities with encoding. Via this port, encoding/transcoding can be started or stopped.

[0050] Similarly, the “Mediaplugin” components labeled “Multicast-01” and “Multicast-02” can also provide an HTTP interface to access the current song being played or being multicast via the HTTP Server 770. For example, the HTTP Server may run a PHP or Python script that will return the current song being played by the streamer. The streamer block 768 can connect to the caching server via HTTP or RTSP protocols. The implementation of this block can be done using a combination of FIG-8 instructions and using multicasting services available in VLC or FFmpeg (e.g. multicast, or tsplay).

[0051] One function of the streamer 768 is to read the files encoded by the caching unit, process those for multicasting and creating the MPEG Transport Stream multicast packets sent via the Ethernet port. Additionally, the multicast-01 and multicast-02 blocks contain a “Recording” function 790, which is in charge of recording the multicasting streams and recording for later use in case of failure on the system. This operates by listening into the UDP (User Datagram Protocol) multicast address of each individual channels being broadcasted, and recording the output into a file. This file is then stored and made accessible for future use. Monitor 764 can maintain the streamer process running at all times throughout a regular broadcasting cycle.

[0052] FIG. 8 illustrates an example method that can be performed by the streamer module in the Mediaplug. In one embodiment, the streamer can perform functions that include: connect to the caching unit; retrieve generated videos per playlist; determine if unit is working in fault-tolerant mode; playback pre-recorded audio if a failure is detected; and record units own output or any other streamer output if connected to switch or hub.

[0053] Turning to the method from FIG. 8, at step 805, the streamer reads the multicast address associated to the channel being broadcasted, in order to generate IGMP (Internet Group Management Protocol) messages and establish a multicast group (e.g. 239.0.0.1:8001). The channel name is also initialized at 810. This value can be used to retrieve the proper content from the Caching server. In one embodiment, a configuration table can be created with tuples: <ChID>, <Channel Name>, <Multicast Address>, <Multicast Port>, such that no duplicates are used or created. Automation software can create these configuration tables and automate the process of creating all streamer calls. A streamer method can be called (e.g. from /etc/init.d/) at boot time and monitored with a tool such as Monit. Once the configuration is known, the streamer will check 850 if there are already multicasting transport streams generated by any other multicast component and avoid collisions. If such multicast data is detected, a delay can be used to delay a new attempt to check on that particular multicast group 860. Hence this block indicates “Wait <Time>” or stop all processing for the amount of <Time> recommended by the specification. For example, the time for delay can be the “Main source” of input less the amount of time for receiving input from a backup server. During initialization, if the same multicast address is used to broadcast main and backup, the one with less amount of time delay will be first, followed by the “Backup.” In cases were a hot spare is used, or two different multicast addresses can be in use, one for main and the other one for backup, then this step may be optional.

[0054] Once it is determined that there are no elements multicasting at the same address, the streamer will check if the Caching server is “alive” 815. This can be performed in multiple ways, for example an HTTP Request must not generate a 404 or 403 error, but instead a successful 202 value. Likewise, ping requests can also be used before making an HTTP GET call to identify if the caching server is present and available. In the case that there are no ping responses, a timeout will trigger a failure and a pre-recorded content 820 will be played or sent to the multicast address and port of record. Recordings can be scheduled daily for an extended period of time (e.g. 8 hours or

more). These recordings can store the recorded file in a temporary folder and then move that file over to the playback folder where streamer can read it.

[0055] If it is determined that the caching server is functioning properly, then there are three types of streams that can be sent to the multicast address and port:

[0056] HTTP Live Streaming (HLS) a multi-segment stream usually defined by extension M3U8, containing a set number of segments for a real-time stream source (Video/audio)

[0057] HTTP/RTSP file playlist, this means that one or many files are read from the caching server, usually defined by extension M3U or PLS

[0058] RTSP stream, this could be constant stream similar to HTTP Live Streaming (HLS) but using an RTSP protocol instead of HLS stream.

[0059] When multiple files are part of a playlist, the bit-rate may vary between playlist files. Different bit-rates among files in a playlist could cause problems in non-CBR (Constant Bit Rate) systems. To avoid such problems, the Mediaplug can maintain the stream at the bit rate of the previous stream by adding null MPEG TS packets at the same rate as the previous media file was being sent over the multicast port. This will maintain appropriate bit-rate for playlists.

[0060] In RTSP service, streaming occurs by writing the media content to a named pipe or a FIFO file and allowing the RTSP service to read from that file and generate an RTSP stream. As such, in HLS and RTSP Streaming, the caching server knows the filename of the file being streamed. When the file is streamed from via playlist, both the caching and multicast unit know the name of the file being streamed, as the multicast server can then request from the caching server the metadata associated with the file name being streamed.

[0061] Accordingly the present technology can accommodate both cases and retrieve the current file name being streamed as a JSON response. The response can identify the content displayed or played back at the end-user's set top box.

[0062] If HLS is used for streaming 818, the streamer will connect to the proper M3U8 file 820 to pull all the segments corresponding to the live playlist file on the M3U8 stream. Programs and libraries such as FFMPEG or VLC can then be used to encapsulate the stream feed to an MPEG TS

and multicast it to the pre-programmed multicast address and port. Similarly, if an RTSP stream 825 is used, the same process takes place at 830 using the RTSP as a protocol instead of HTTP.

[0063] If a list of files in a playlist 832 is in use “M3U,” the list can be obtained using an HTTP GET request made to the caching server. Each file can then be streamed to the multicast address and port of record 838 until all elements of the playlist are completed and played back 835.

[0064] In some instances, metadata can be added to the stream as an additional PID (Program Identifier) in the MPEG Transport Stream. If metadata is needed 841 then it will be inserted 842 here in accordance with FIG. 9.

[0065] For example, the metadata added could be as simple as a string containing Artist, Name, or other information, or as complex as DCII Text (DigiCipher version 2, as specified by Motorola), MPEG TS Control messages (Two-way), or any other metadata or PID that can be inserted into the stream being sent to the multicast address and port.

[0066] FIG. 9 illustrates an example method used to insert a special data packet into the stream being written to the multicast address, without making use of timing information. Therefore, the metadata can be inserted such that it does not have timing dependency. Alternatively, certain type of metadata such as subtitles or lyrics may need to be inserted only at certain times so that it is synchronized with the video data.

[0067] The sample MPEG TS packet shown in 902 and 905 corresponds to the metadata inside the packet. This matches standard MPEG TS packet structure and may vary depending on the type of metadata being added to the stream.

[0068] The method to insert the packet starts by reading the MPEG TS file retrieved from the caching server 910. If metadata corresponds to only song information, this information can be added at uniform times. Non-uniform timing inclusions can also be done by adding a table that includes the time and the metadata content added to the stream 915. This metadata can be retrieved from the Caching unit using an HTTP Get request directed to the caching server 918 and may include artist name, title of song, or any other information 920.

[0069] Creation of the MPEG Packet(s) 925 to be inserted at the appropriate times, which will set the places with those packets, will be inserted in the MPEG TS. Modify the PMT (Program Management Table) of the generated file and include the PID being inserted into the MPEG TS 930. At step 932, an audio PID may include a metadata PID of type DCII Text, which is added to the stream.

[0070] For each timing or location where the PID needs to be inserted 935, the method can insert those packets and generate a buffer that can be sent to the multicast address as in illustrated in FIG. 8.

[0071] As described above, the disclosed technology can be implemented using a set of modules included in the Mediaplug apparatus, which can be implemented using one or more servers accordingly. Alternatively, virtualization environments such as VMWare or Xen (FIG-9) can include a system and architecture that can be used to host all the Mediaplug functionality in a virtualized environment using a single server with multiple GbE ports.

[0072] The illustration in FIG. 10 shows a configuration of three virtual machines used for implementing the Mediaplug. Caching 1030 and its respective Ethernet port 1032, Multicast-01 1020 with two virtual Ethernet ports 1022 and 1024, and Multicast-02 1010, with two Ethernet ports 1012 and 1014. There are three bridges that include 1007, 1008, and 1009. The multicast Ethernet ports 1024 and 1014 are bridged with eth1 1004 and eth2 1003 respectively via bridge 1009 and bridge 1008, respectively. That is, the same content generated at 1024 can be forwarded via the bridge 1009 to the physical interface eth1 1004 in the hardware. The vSwitch 1045 or the virtual switch between the two bridged interfaces 1008 and 1009 permits the two virtual machines of Multicast-01 1010 and Multicast-02 1020 to record each other and monitor their activity.

[0073] To achieve concurrency and proper execution in a cloud environment, the Mediaplug can use the example method shown in FIG. 11. Once a create unit command is issued 1105, provisioning of the metadata information and proper IP Address is provided for that particular instance 1110. Once an IP Address and metadata has been chosen for the unit, the server can be allocated in the cloud and the instance can be created using CloudStack or OpenStack tools and services 1115. The instance is then allocated and runs in the proper node in the cloud 1120. Configuration of the assigned IP, Netmask, and VPN credentials are loaded at 1125. Finally,

certificate information is uploaded 1130 as well as all services run to enable the unit for execution of its caching functions, multicasting functions, or both.

[0074] FIG. 12 illustrates a conventional system bus computing system architecture 1200 such as can be used in Mediaplug 110. Those of ordinary skill in the art will appreciate that other system architectures are also possible.

[0075] In computing system architecture 1200 the components of the system are in electrical communication with each other using a bus 1205. Example system 1200 includes a processing unit (CPU or processor) 1210 and a system bus 1205 that couples various system components including the system memory 1215, such as read only memory (ROM) 1220 and random access memory (RAM) 1225, to the processor 1210. The system 1200 can include a cache of high-speed memory connected directly with, in close proximity to, or integrated as part of the processor 1210. The system 1200 can copy data from the memory 1215 and/or the storage device 1230 to the cache 1212 for quick access by the processor 1210. In this way, the cache can provide a performance boost that avoids processor 1210 delays while waiting for data. These and other modules can control or be configured to control the processor 1210 to perform various actions. Other system memory 1215 may be available for use as well. The memory 1215 can include multiple different types of memory with different performance characteristics. The processor 1210 can include any general purpose processor and a hardware module or software module, such as module 1 1232, module 2 1234, and module 3 1236 stored in storage device 1230, configured to control the processor 1210 as well as a special-purpose processor where software instructions are incorporated into the actual processor design. The processor 1210 may essentially be a completely self-contained computing system, containing multiple cores or processors, a bus, memory controller, cache, etc. A multi-core processor may be symmetric or asymmetric.

[0076] To enable user interaction with the computing device 1200, an input device 1245 can represent any number of input mechanisms, such as a microphone for speech, a touch-sensitive screen for gesture or graphical input, keyboard, mouse, motion input, speech and so forth. An output device 1235 can also be one or more of a number of output mechanisms known to those of skill in the art. In some instances, multimodal systems can enable a user to provide multiple types of input to communicate with the computing device 1200. The communications interface 1240 can

generally govern and manage the user input and system output. There is no restriction on operating on any particular hardware arrangement and therefore the basic features here may easily be substituted for improved hardware or firmware arrangements as they are developed.

[0077] Storage device 1230 is a non-volatile memory and can be a hard disk or other types of computer readable media which can store data that are accessible by a computer, such as magnetic cassettes, flash memory cards, solid state memory devices, digital versatile disks, cartridges, random access memories (RAMs) 1225, read only memory (ROM) 1220, and hybrids thereof.

[0078] The storage device 1230 can include software modules 1232, 1234, 1236 for controlling the processor 1210. Other hardware or software modules are contemplated. The storage device 1230 can be connected to the system bus 1205. In one aspect, a hardware module that performs a particular function can include the software component stored in a computer-readable medium in connection with the necessary hardware components, such as the processor 1210, bus 1205, display 1235, and so forth, to carry out the function.

[0079] It can be appreciated that example system 1200 can have more than one processor 1210 or be part of a group or cluster of computing devices networked together to provide greater processing capability.

[0080] For clarity of explanation, in some instances the present technology may be presented as including individual functional blocks including functional blocks comprising devices, device components, steps or routines in a method embodied in software, or combinations of hardware and software.

[0081] Any of the steps, operations, functions, or processes described herein may be performed or implemented by a combination of hardware and software modules, alone or in combination with other devices. In an embodiment, a software module can be software that resides in memory of a client device and/or one or more servers of a content management system and perform one or more functions when a processor executes the software associated with the module. The memory can be a non-transitory computer-readable medium.

[0082] In some embodiments the computer-readable storage devices, mediums, and memories can include a cable or wireless signal containing a bit stream and the like. However, when mentioned,

non-transitory computer-readable storage media expressly exclude media such as energy, carrier signals, electromagnetic waves, and signals per se.

[0083] Methods according to the above-described examples can be implemented using computer-executable instructions that are stored or otherwise available from computer readable media. Such instructions can comprise, for example, instructions and data which cause or otherwise configure a general purpose computer, special purpose computer, or special purpose processing device to perform a certain function or group of functions. Portions of computer resources used can be accessible over a network. The computer executable instructions may be, for example, binaries, intermediate format instructions such as assembly language, firmware, or source code. Examples of computer-readable media that may be used to store instructions, information used, and/or information created during methods according to described examples include magnetic or optical disks, flash memory, USB devices provided with non-volatile memory, networked storage devices, and so on.

[0084] Devices implementing methods according to these disclosures can comprise hardware, firmware and/or software, and can take any of a variety of form factors. Typical examples of such form factors include laptops, smart phones, small form factor personal computers, personal digital assistants, and so on. Functionality described herein also can be embodied in peripherals or add-in cards. Such functionality can also be implemented on a circuit board among different chips or different processes executing in a single device, by way of further example.

[0085] The instructions, media for conveying such instructions, computing resources for executing them, and other structures for supporting such computing resources are means for providing the functions described in these disclosures.

[0086] Although a variety of examples and other information was used to explain aspects within the scope of the appended claims, no limitation of the claims should be implied based on particular features or arrangements in such examples, as one of ordinary skill would be able to use these examples to derive a wide variety of implementations. Further and although some subject matter may have been described in language specific to examples of structural features and/or method steps, it is to be understood that the subject matter defined in the appended claims is not necessarily limited to these described features or acts. For example, such functionality can be distributed

differently or performed in components other than those identified herein. Rather, the described features and steps are disclosed as examples of components of systems and methods within the scope of the appended claims.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
16/729,986	12/30/2019		0.00	162774.00121	23	4

CONFIRMATION NO. 7220

FILING RECEIPT



0000000114113753

86000
Fox Rothschild LLP / G. Nelson
997 Lennox Drive
Building 3
Lawrenceville, NJ 08648

Date Mailed: 01/24/2020

Receipt is acknowledged of this non-provisional utility patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF FIRST INVENTOR, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection.

Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a corrected Filing Receipt, including a properly marked-up ADS showing the changes with strike-through for deletions and underlining for additions. If you received a "Notice to File Missing Parts" or other Notice requiring a response for this application, please submit any request for correction to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections provided that the request is grantable.

Inventor(s)

Edwin A. HERNANDEZ-MONDRAGON, Coral Springs, FL;

Applicant(s)

Edwin A. HERNANDEZ-MONDRAGON, Coral Springs, FL;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 16/152,606 10/05/2018 PAT 10524002
which is a CON of 15/538,911 06/22/2017 PAT 10123074
which is a 371 of PCT/US2015/067464 12/22/2015
which claims benefit of 62/095,504 12/22/2014

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 01/22/2020

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 16/729,986**

Projected Publication Date: To Be Determined - pending completion of Missing Parts

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV
AND SATELLITE OPERATORS

Preliminary Class

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific

page 2 of 4

countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop

technology, manufacture products, deliver services, and grow your business, visit <http://www.SelectUSA.gov> or call +1-202-482-6800.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/729,986	12/30/2019	Edwin A. HERNANDEZ- MONDRAGON	162774.00121

86000
Fox Rothschild LLP / G. Nelson
997 Lennox Drive
Building 3
Lawrenceville, NJ 08648

CONFIRMATION NO. 7220
FORMALITIES LETTER



OC000000114113754

Date Mailed: 01/24/2020

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The statutory basic filing fee is missing.
- The application search fee must be submitted.
- The application examination fee must be submitted.
- Additional claim fees of \$ **380** as a small entity, including any required multiple dependent claim fee, are required. Applicant must submit the additional claim fees or cancel the additional claims for which fees are due.
- Surcharge as set forth in 37 CFR 1.16(f) must be submitted.

The surcharge is due for any one of:

- late submission of the basic filing fee, search fee, or examination fee,
- late submission of inventor's oath or declaration,
- filing an application that does not contain at least one claim on filing, or
- submission of an application filed by reference to a previously filed application.

SUMMARY OF FEES DUE:

The fee(s) required within **TWO MONTHS** from the date of this Notice to avoid abandonment is/are itemized below. Small entity discount is in effect. If applicant is qualified for micro entity status, an acceptable Certification of Micro Entity Status must be submitted to establish micro entity status. (See 37 CFR 1.29 and forms PTO/SB/15A and 15B.)

- \$ **75** basic filing fee.
- \$ **80** surcharge.
- \$ **330** search fee.
- \$ **380** examination fee.
- \$ **230** for **1** independent claims over 3.
- \$ **150** for **3** total claims over 20.

- \$(0) previous unapplied payment amount.
- **\$ 1245** TOTAL FEE BALANCE DUE.

Replies must be received in the USPTO within the set time period or must include a proper Certificate of Mailing or Transmission under 37 CFR 1.8 with a mailing or transmission date within the set time period. For more information and a suggested format, see Form PTO/SB/92 and MPEP 512.

Replies should be mailed to:

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web, including a copy of this Notice and selecting the document description "Applicant response to Pre-Exam Formalities Notice".
<https://portal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html>

For more information about EFS-Web please call the USPTO Electronic Business Center at 1-866-217-9197 or visit our website at <http://www.uspto.gov/ebc>.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/sibrahim/

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 16/729,986	
APPLICATION AS FILED - PART I							
(Column 1)		(Column 2)		SMALL ENTITY		OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	75		N/A	
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	330		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	380		N/A	
TOTAL CLAIMS (37 CFR 1.16(j))	23 minus 20 =	*	x 50 =	150	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	4 minus 3 =	*	x 230 =	230			
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00			
				TOTAL		TOTAL	
				1165			
* If the difference in column 1 is less than zero, enter "0" in column 2.							
APPLICATION AS AMENDED - PART II							
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY	
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)
	Total (37 CFR 1.16(i))	*	Minus **	=	x =	OR	x =
	Independent (37 CFR 1.16(h))	*	Minus ***	=	x =	OR	x =
	Application Size Fee (37 CFR 1.16(s))					OR	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					OR	
				TOTAL ADD'L FEE		TOTAL ADD'L FEE	
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY	
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)
	Total (37 CFR 1.16(i))	*	Minus **	=	x =	OR	x =
	Independent (37 CFR 1.16(h))	*	Minus ***	=	x =	OR	x =
	Application Size Fee (37 CFR 1.16(s))					OR	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					OR	
				TOTAL ADD'L FEE		TOTAL ADD'L FEE	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.							

03/24/2020 12:13 PM PDT

TO:15712738300 FROM:9549191494

Page: 1

Fax Transmission

RECEIVED
CENTRAL FAX CENTER

MAR 24 2020

To: USPTO FEES

From: EGLA CORP

Fax: 15712738300

Date: 3/24/2020 12:13:17 PM PDT

RE: PAYMENT OF FEES FOR PATENT APPLICATION 16 **Pages:** 5

Comments:

HI ALL,

USPTO FEES FOR 16/729,986

MAR 24 2020

PTO/SB/17 (01-18)

Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995 no persons are required to respond to a collection of information unless it displays a valid OMB control number

FEE TRANSMITTAL		Complete if known	
		Application Number	16/729,986
		Filing Date	12/30/2019
☒ Applicant asserts small entity status. See 37 CFR 1.27.	First Named Inventor	Edwin A. Hernandez-Mondragon	
☐ Applicant certifies micro entity status. See 37 CFR 1.29. Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.	Examiner Name		
	Art Unit		
TOTAL AMOUNT OF PAYMENT (\$)	1165	Practitioner Docket No.	162774.00121

METHOD OF PAYMENT (check all that apply)☐ Check ☒ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____☐ Deposit Account Deposit Account Number: _____ Deposit Account Name: _____

For the above-identified deposit account, the Director is hereby authorized to (check all that apply):

☐ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, except for the filing fee☐ Charge any additional fee(s) or underpayment of fee(s) under 37 CFR 1.16 and 1.17 ☐ Credit any overpayment of fee(s)**WARNING:** Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**FEE CALCULATION****1. BASIC FILING, SEARCH, AND EXAMINATION FEES (U = undiscounted fee; S = small entity fee; M = micro entity fee)**

Application Type	FILING FEES			SEARCH FEES			EXAMINATION FEES			Fees Paid (\$)
	U (\$)	S (\$)	M (\$)	U (\$)	S (\$)	M (\$)	U (\$)	S (\$)	M (\$)	
Utility	300	150*	75	660	330	165	760	380	190	
Design	200	100	50	160	80	40	600	300	150	
Plant	200	100	50	420	210	105	620	310	155	
Reissue	300	150	75	660	330	165	2,200	1,100	550	
Provisional	280	140	70	0	0	0	0	0	0	

* The \$150 small entity status filing fee for a utility application is further reduced to \$75 for a small entity status applicant who files the application via EFS-Web.

2. EXCESS CLAIM FEES

Fee Description	Undiscounted Fee (\$)	Small Entity Fee (\$)	Micro Entity Fee (\$)
Each claim over 20 (including Reissues)	100	50	25
Each independent claim over 3 (including Reissues)	460	230	115
Multiple dependent claims	820	410	205
Total Claims			
23 -20 or HP = 3 x	50	150	
HP = highest number of total claims paid for, if greater than 20.			
Indep. Claims			
4 -3 or HP = 1 x	230	230	
HP = highest number of independent claims paid for, if greater than 3.			

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$400 (\$200 for small entity) (\$100 for micro entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
- 100 =	/ 50 =	(round up to a whole number) x	=	

4. OTHER FEE(S)

Non-English specification, \$130 fee (no small or micro entity discount)

Non-electronic filing fee under 37 CFR 1.16(t) for a utility application, \$400 fee (\$200 small or micro entity)

Other (e.g., late filing surcharge): _____

SUBMITTED BY

Signature		Registration No. (Attorney/Agent)	Telephone 5613064996
Name (Print/Type)	Edwin A. Hernandez	Date	3/24/2020

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.



United States Patent and Trademark Office

Office of the Chief Financial Officer

Document Code:WFEE

User :C46989

Sale Accounting Date:03/25/2020

Sale Item Reference Number
16729986

Effective Date
03/24/2020

Document Number	Fee Code	Fee Code Description	Amount Paid	Payment Method
I20203O945481990	4011	UTILITY FILING FEE (ELECTRONIC FILING)	\$75.00	Credit Card
I20203O945481990	2111	UTILITY SEARCH FEE	\$330.00	Credit Card
I20203O945481990	2311	UTILITY EXAMINATION FEE	\$380.00	Credit Card
I20203O945481990	2201	INDEPENDENT CLAIMS IN EXCESS OF 3	\$230.00	Credit Card
I20203O945481990	2202	CLAIMS IN EXCESS OF 20	\$150.00	Credit Card



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/729,986	12/30/2019	Edwin A. HERNANDEZ- MONDRAGON	162774.00121

CONFIRMATION NO. 7220

FORMALITIES LETTER



86000
Fox Rothschild LLP / G. Nelson
997 Lennox Drive
Building 3
Lawrenceville, NJ 08648

Date Mailed: 04/01/2020

NOTICE OF INCOMPLETE REPLY (NONPROVISIONAL)

Filing Date Granted

The U.S. Patent and Trademark Office has received your reply on 03/24/2020 to the NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION (Notice) mailed 01/24/2020 and it has been entered into the application. The reply, however, is not a complete reply for the reason(s) listed below. A complete reply must be timely filed to prevent ABANDONMENT of the above-identified application. Replies should be mailed to: Mail Stop Missing Parts, Commissioner for Patents, P.O.Box 1450, Alexandria VA 22313-1450.

The period for reply continues to run from the date of the Notice mailed 01/24/2020. Applicant must submit all required items and pay any fees required below within two months from the date of the NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION to avoid abandonment. If the reply is submitted after two months from the date of the NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION, extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

Items Required to Avoid Abandonment:

The required items noted below SHOULD be filed along with any items required above.

- Surcharge as set forth in 37 CFR 1.16(f) must be submitted.

The surcharge is due for any one of:

- late submission of the basic filing fee, search fee, or examination fee,
- late submission of inventor's oath or declaration,
- filing an application that does not contain at least one claim on filing, or
- submission of an application filed by reference to a previously filed application.

SUMMARY OF FEES DUE:

The fee(s) required within **TWO MONTHS** from the date of the Notice to avoid abandonment is/are itemized below. Small entity discount is in effect. If applicant is qualified for micro entity status, an acceptable Certification of Micro Entity Status must be submitted to establish micro entity status. (See 37 CFR 1.29 and forms PTO/SB/15A and 15B.)

- **\$ 80** surcharge.
- **\$(0)** previous unapplied payment amount.
- **\$ 80** TOTAL FEE BALANCE DUE.

Replies must be received in the USPTO within the set time period or must include a proper Certificate of Mailing or Transmission under 37 CFR 1.8 with a mailing or transmission date within the set time period. For more information and a suggested format, see Form PTO/SB/92 and MPEP 512.

Replies should be mailed to:

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web, including a copy of this Notice and selecting the document description "Applicant response to Pre-Exam Formalities Notice".
<https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html>

For more information about EFS-Web please call the USPTO Electronic Business Center at 1-866-217-9197 or visit our website at <http://www.uspto.gov/ebc>.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/agizaw/

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 16/729,986				
APPLICATION AS FILED - PART I										
(Column 1)		(Column 2)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY				
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)			
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	75		N/A				
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	330		N/A				
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	380		N/A				
TOTAL CLAIMS (37 CFR 1.16(j))	23 minus 20 =	*	x 50 =	150	OR					
INDEPENDENT CLAIMS (37 CFR 1.16(h))	4 minus 3 =	*	x 230 =	230						
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00						
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00						
			TOTAL	1165		TOTAL				
* If the difference in column 1 is less than zero, enter "0" in column 2.										
APPLICATION AS AMENDED - PART II										
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY		
AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))							OR		
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY		
AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))							OR		
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.										

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	16/729,986
Filing Date	December 30, 2019
First Named Inventor	Edwin A. Hernandez-Mondragon
Title	METHOD, SYSTEM AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS
Art Unit	
Examiner Name	
Attorney Docket Number	MONDRAGON_19_NPA1

SIGNATURE of Applicant or Patent Practitioner

Signature	/Scott M. Garrett/	Date (Optional)	
Name	Scott M. Garrett	Registration Number	39988
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☐

*Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date
16/729,986	December 30, 2019

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

☒ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: 11930

OR

☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

☒ The address associated with the above-mentioned Customer Number
OR
☐ The address associated with Customer Number:
OR

Firm or Individual Name					
Address					
City		State		Zip	
Country					
Telephone			Email		

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

--

☒ Inventor or Joint Inventor (title not required below)

☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)

☐ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)

☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature		Date (Optional)	May 19, 2020
Name	Edwin A. Hernandez-Mondragon		
Title			

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☒ Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Acknowledgement Receipt

EFS ID:	39479606
Application Number:	16729986
International Application Number:	
Confirmation Number:	7220
Title of Invention:	METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS
First Named Inventor/Applicant Name:	Edwin A. HERNANDEZ-MONDRAGON
Customer Number:	86000
Filer:	Scott D. Smiley/Sandra Gatov
Filer Authorized By:	Scott D. Smiley
Attorney Docket Number:	162774.00121
Receipt Date:	19-MAY-2020
Filing Date:	30-DEC-2019
Time Stamp:	13:41:30
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	MONDRAGON_19_NPA1_POA_Flat.pdf	218373 0e12405fad8d42ebd14d6e7d8fb2d580ba11f353	no	2

Warnings:

Information:	
Total Files Size (in bytes):	218373
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.	

Electronic Patent Application Fee Transmittal				
Application Number:		16729986		
Filing Date:		30-Dec-2019		
Title of Invention:		METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS		
First Named Inventor/Applicant Name:		Edwin A. HERNANDEZ-MONDRAGON		
Filer:		Scott D. Smiley/Sandra Gatov		
Attorney Docket Number:		162774.00121		
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
UTILITY FILING FEE (ELECTRONIC FILING)	4011	1	75	75
UTILITY SEARCH FEE	2111	1	330	330
UTILITY EXAMINATION FEE	2311	1	380	380
Pages:				
Claims:				
CLAIMS IN EXCESS OF 20	2202	3	50	150
INDEPENDENT CLAIMS IN EXCESS OF 3	2201	1	230	230
Miscellaneous-Filing:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
LATE FILING FEE FOR OATH OR DECLARATION	2051	1	80	80
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 2 months with \$0 paid	2252	1	300	300
Miscellaneous:				
Total in USD (\$)				1545

Electronic Acknowledgement Receipt

EFS ID:	39515039
Application Number:	16729986
International Application Number:	
Confirmation Number:	7220
Title of Invention:	METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS
First Named Inventor/Applicant Name:	Edwin A. HERNANDEZ-MONDRAGON
Customer Number:	86000
Filer:	Scott D. Smiley/Sandra Gatov
Filer Authorized By:	Scott D. Smiley
Attorney Docket Number:	162774.00121
Receipt Date:	22-MAY-2020
Filing Date:	30-DEC-2019
Time Stamp:	10:21:49
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$ 1545
RAM confirmation Number	E20205LA22379129
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Fee Worksheet (SB06)	fee-info.pdf	42093	no	2
			95e17da17347b61dd63d42a2972d331cc387b948		
Warnings:					
Information:					
Total Files Size (in bytes):			42093		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
16/729,986	12/30/2019		1245	MONDRAGON_19_NPA1	23	4

CONFIRMATION NO. 7220

UPDATED FILING RECEIPT

11930

The Concept Law Group, P.A.
6400 North Andrews Avenue, Suite 500
Fort Lauderdale, FL 33309



Date Mailed: 07/02/2020

Receipt is acknowledged of this non-provisional utility patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF FIRST INVENTOR, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection.

Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a corrected Filing Receipt, including a properly marked-up ADS showing the changes with strike-through for deletions and underlining for additions. If you received a "Notice to File Missing Parts" or other Notice requiring a response for this application, please submit any request for correction to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections provided that the request is grantable.

Inventor(s)

Edwin A. HERNANDEZ-MONDRAGON, Coral Springs, FL;

Applicant(s)

Edwin A. HERNANDEZ-MONDRAGON, Coral Springs, FL;

Power of Attorney: The patent practitioners associated with Customer Number 11930

Domestic Priority data as claimed by applicant

This application is a CON of 16/152,606 10/05/2018 PAT 10524002
which is a CON of 15/538,911 06/22/2017 PAT 10123074
which is a 371 of PCT/US2015/067464 12/22/2015
which claims benefit of 62/095,504 12/22/2014

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 01/22/2020

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 16/729,986**

Projected Publication Date: 10/08/2020

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV
AND SATELLITE OPERATORS

Preliminary Class

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific

page 2 of 4

countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop

technology, manufacture products, deliver services, and grow your business, visit <http://www.SelectUSA.gov> or call +1-202-482-6800.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 16/729,986				
APPLICATION AS FILED - PART I										
(Column 1)		(Column 2)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY				
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)			
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	75		N/A				
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	330		N/A				
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	380		N/A				
TOTAL CLAIMS (37 CFR 1.16(j))	23 minus 20 =	*	x 50 =	150	OR					
INDEPENDENT CLAIMS (37 CFR 1.16(h))	4 minus 3 =	*	x 230 =	230						
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00						
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00						
			TOTAL	1165		TOTAL				
* If the difference in column 1 is less than zero, enter "0" in column 2.										
APPLICATION AS AMENDED - PART II										
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY		
AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))							OR		
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY		
AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))							OR		
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.										



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/729,986	12/30/2019	Edwin A. HERNANDEZ- MONDRAGON	MONDRAGON_19_NPA1 CONFIRMATION NO. 7220 POA ACCEPTANCE LETTER

11930
The Concept Law Group, P.A.
6400 North Andrews Avenue, Suite 500
Fort Lauderdale, FL 33309



OC000000118183308

Date Mailed: 07/02/2020

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 05/19/2020.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/wtsige/

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 16/729,986		Filing Date 12/30/2019		☐ To be Mailed	
ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO									
APPLICATION AS FILED - PART I									
		(Column 1)	(Column 2)						
FOR		NUMBER FILED	NUMBER EXTRA		RATE (\$)		FEE (\$)		
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A	N/A		N/A				
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))		N/A	N/A		N/A				
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))		N/A	N/A		N/A				
TOTAL CLAIMS (37 CFR 1.16(i))		minus 20 = *		x \$50 =					
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 = *		x \$230 =					
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))		If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).							
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))									
* If the difference in column 1 is less than zero, enter "0" in column 2.					TOTAL				
APPLICATION AS AMENDED - PART II									
		(Column 1)		(Column 2)	(Column 3)				
AMENDMENT	07/07/2020	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 26	Minus	** 23	= 3	x \$50 =		150	
	Independent (37 CFR 1.16(h))	* 4	Minus	*** 4	= 0	x \$230 =		0	
	☐ Application Size Fee (37 CFR 1.16(s))								
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
						TOTAL ADD'L FEE		150	
		(Column 1)		(Column 2)	(Column 3)				
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=	x \$0 =			
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x \$0 =			
	☐ Application Size Fee (37 CFR 1.16(s))								
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
						TOTAL ADD'L FEE			
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.						LIE			
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".						/ANGELA S WHITE/			
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".									
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.									

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Acknowledgement Receipt

EFS ID:	39927310
Application Number:	16729986
International Application Number:	
Confirmation Number:	7220
Title of Invention:	METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS
First Named Inventor/Applicant Name:	Edwin A. HERNANDEZ-MONDRAGON
Customer Number:	11930
Filer:	Scott D. Smiley/Sandra Gatov
Filer Authorized By:	Scott D. Smiley
Attorney Docket Number:	MONDRAGON_19_NPA1
Receipt Date:	07-JUL-2020
Filing Date:	30-DEC-2019
Time Stamp:	11:02:09
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Preliminary Amendment	MONDRAGON_19_NPA1_Preliminary_Amendment_Flat.pdf	93473	no	8
			6d41c134caedcc65342eadcc19e095434575b24e		

Warnings:

Page 86 of 180 (IPR2025-00351)

Stingray Group Inc. et al v. Hernandez-Mondragon

Information:	
Total Files Size (in bytes):	93473
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.	

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appln. No.	:	16/729,986	Confirmation No. 7220
Applicant	:	Edwin A. Hernandez-Mondragon	
Filed	:	Dec. 30, 2019	
TC/A.U.	:	2421	
Examiner	:	Le, Rong	
Docket No.	:	MONDRAGON_19_NPA1	

PRELIMINARY AMENDMENT

Commissioner for Patents
VIA EFS-WEB FILING
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In the application filed Dec. 30, 2019, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this submission.

Remarks/Arguments begin on page 8 of this submission.

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the instant application:

1 – 23. Cancelled.

24. A computer implemented method, comprising:

creating a plurality of multimedia assets at a caching unit, for each one of the plurality of multimedia assets:

determining that there is sufficient storage space for the multimedia asset at the caching unit;

generating a channel identifier for the multimedia asset;

retrieving from a cloud service a plurality of media files to be included in the multimedia asset including a media identifier for each one of the media files;

for each one of the media files, creating a custom hypertext transfer markup language (HTML) user interface that includes video;

encoding each of the media files and encapsulating them together using an MPEG transport stream format;

storing each one of the multimedia assets at the caching unit;

receiving a request at the caching unit for one of the multimedia assets from a broadcasting unit; and

responsive to receiving the request, the caching unit providing the multimedia asset to the broadcasting unit in the MPEG transport stream format.

25. The method of claim 24, wherein receiving the requests for the multimedia assets comprising receiving the requests over a REST API. Or: wherein retrieving the plurality of media files is performed using a REST API.

26. The method of claim 24, wherein creating the custom HTML user interface for each media file is performed using Javascript.

27. The method of claim 24, wherein encoding each of the media files include encoding each of the media files at a specified bit rate.

28. The method of claim 24, wherein encoding each of the media files include encoding each of the media files using a H.264 encoder.

29. The method of claim 24, wherein the custom HTML user interfaces are configured to be rendered using a Webkit browser.

30. The method of claim 24, wherein the video for the custom HTML interfaces includes video taken from the media file.

31. The method of claim 24, wherein encoding the media file is performed using an AC-3 file format for audio content in the media file.

32. The method of claim 24, wherein the custom HTML user interfaces are configured so that multiple custom HTML user interfaces of the multimedia asset can be retrieved using a web rendering engine.

33. A computer-implemented method comprising:
virtualizing a system including a virtualized caching server, wherein the virtualized caching server performs:

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;

obtaining content corresponding to the plurality of multimedia items from at least one source offering the content in at least one first format;

rendering a web page by a browser using the content;

generating 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;

assembling the at least one media stream using the temporal sequence of screen captures; and

providing the at least one media stream to the content provider for broadcast on the broadcast media channel.

34. The method of claim 33, 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.

35. The method of claim 34, 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.

36. The method of claim 34, 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.

37. The method of claim 36, 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.

38. The method of claim 33, further comprising: the virtualized caching server identifying the at least one webpage based on a channel identifier associated with the broadcast media channel.

39. The method of claim 33, further comprising: the virtualized server querying the content provider to determine the second format, wherein the second format corresponds to a Moving Picture Experts Group (MPEG) format.

40. The method of claim 35, further comprising: the virtualized caching server detecting a change at the at least one webpage corresponding to at least one of the plurality of multimedia items; 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 reassembling the at least one of the plurality of multimedia items using the new plurality of screen captures to yield an updated multimedia item.

41. The method of claim 33, wherein the content provider is a cable television operator or a satellite television operator.

42. The method of claim 33, wherein providing the at least one media stream to the content provider comprises streaming the at least one media stream to an MPEG multiplexer associated with the content provider.

43. The method of claim 33, further comprising: the virtualized caching server provisioning, on at least one server, at least one virtual machine for performing the receiving, obtaining, generating, assembling, and providing.

44. The method of claim 33, wherein virtualizing the system is performed using one of Docker, Xenserver, or a virtual machine.

45. The method of claim 33, wherein virtualizing the system includes virtualizing the system to include at least one virtualized multicasting server that perform the providing the at least one media stream to the content provider.

46. The method of claim 33, wherein virtualizing the system is performed for one channel, wherein the virtualized caching server is operable for one channel, wherein virtualizing the system is repeated for each one of a plurality of other channels.

47. The method of claim 33, wherein receiving the request is performed using a JSON API.

48. A computer-implemented method comprising:
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;

obtaining content corresponding to the plurality of multimedia items from at least one source offering the content in at least one first format, performed over a first TCP-IP socket of a caching unit;

rendering a web page by a browser using the content;

generating 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;

assembling the at least one media stream using the temporal sequence of screen captures;

providing the at least one media stream to the content provider for broadcast on the broadcast media channel; and

providing, at a second TCP/IP socket of the caching unit, a status of the obtaining, generating, and assembling.

49. A computer-implemented method comprising:

at a caching unit:

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;

- obtaining content corresponding to the plurality of multimedia items from at least one source offering the content in at least one first format;
- rendering a web page by a browser using the content;
- generating 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;
- assembling the at least one media stream using the temporal sequence of screen captures;

at a multicast unit that is operable connected to the caching unit:

- providing the at least one media stream to the content provider for broadcast on the broadcast media channel;
- recording the media stream from the caching unit to produce a recorded media stream; and
- upon a fault being detected at the caching unit, providing at least a portion of the recorded media stream to the content provider.

Appln. No. 16/729,986
Submission dated July 7, 2020
Docket No.: MONDRAGON_19_NPA1

COMMENTS

This preliminary amendment is filed prior to the issuance of a first action on the merits, and should accordingly be entered. Should the Examiner identify further action that will place the claims in condition for allowance the Examiner is invited to contact the undersigned representative.

Respectfully submitted,

Date: July 7, 2020

/SCOTT M. GARRETT/

Scott M. Garrett, Registration No. 39,988
The Concept Law Group
Customer No. 11930
6400 North Andrews Avenue, Suite 500
Fort Lauderdale, Florida 33309
Office: (754) 300-1500
Direct: (754) 300-1495



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/729,986	12/30/2019	Edwin A. HERNANDEZ- MONDRAGON	MONDRAGON_19_NPA1 CONFIRMATION NO. 7220

11930
The Concept Law Group, P.A.
6400 North Andrews Avenue, Suite 500
Fort Lauderdale, FL 33309

PUBLICATION NOTICE



OC000000120516148

Title:METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS

Publication No.US-2020-0322679-A1

Publication Date:10/08/2020

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently <http://www.uspto.gov/patft/>.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Public Records Division. The Public Records Division can be reached by telephone at (571) 272-3150 or (800) 972-6382, by facsimile at (571) 273-3250, by mail addressed to the United States Patent and Trademark Office, Public Records Division, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently <https://portal.uspto.gov/pair/PublicPair>. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/729,986	12/30/2019	Edwin A. HERNANDEZ-MONDRAGON	MONDRAGON_19_NPA1	7220
11930	7590	02/10/2021	EXAMINER	
The Concept Law Group, P.A.			LE, RONG	
6400 North Andrews Avenue, Suite 500			ART UNIT	PAPER NUMBER
Fort Lauderdale, FL 33309			2421	
			NOTIFICATION DATE	DELIVERY MODE
			02/10/2021	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

info@conceptlaw.com
scott@conceptlaw.com
sgarrett@conceptlaw.com

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Miscellaneous

Claims pending: 24-49

Claims amended: N/A

Claims cancelled: 1-23

New claims: N/A

Double Patenting

Double Patenting The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the claims at issue are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d

Art Unit: 2421

438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321 (c) or 1.321 (d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the reference application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. A terminal disclaimer must be signed in compliance with 37 CFR 1.321 (b).

The USPTO internet Web site contains terminal disclaimer forms which may be used. Please visit <http://www.uspto.gov/forms/>. The filing date of the application will determine what form should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to

<http://www.uspto.gov/patents-application-process/applying-online/eterminal-disclaimer>

Claims 24-49 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 10524002 (application 16152606) since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows:

Application's Claim(s) 24, 33, 48-49 similarly claim: (24) A computer implemented method, comprising: creating a plurality of multimedia assets at a caching unit, for each one of the plurality of multimedia assets: determining that there is sufficient storage space for the multimedia asset at the caching unit; generating a channel identifier for the multimedia asset; retrieving from a cloud service a plurality of media files to be included in the multimedia asset including a media identifier for each one of the media files; for each one of the media files, creating a custom hypertext transfer markup language (HTML) user interface that includes video; encoding each of the media files and encapsulating them together using an MPEG transport stream format; storing each one of the multimedia assets at the caching unit; receiving a request at the caching unit for one of the multimedia assets from a broadcasting unit; and responsive to receiving the request, the caching unit providing the multimedia asset to the broadcasting unit in the MPEG transport stream format. (33) A computer-implemented method comprising: virtualizing a system including a virtualized caching server, wherein the virtualized caching server performs :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; obtaining content corresponding to the plurality of multimedia items from at least one source offering the content in at least one first format; rendering a web page by a browser using the content; generating a temporal sequence of screen captures of the rendered web page, where each

Art Unit: 2421

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; assembling the at least one media stream using the temporal sequence of screen captures; and providing the at least one media stream to the content provider for broadcast on the broadcast media channel.... (49) A computer-implemented method comprising: at a caching unit: 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; obtaining content corresponding to the plurality of multimedia items from at least one source offering the content in at least one first format; rendering a web page by a browser using the content; generating 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; assembling the at least one media stream using the temporal sequence of screen captures; at a multicast unit that is operable connected to the caching unit: providing the at least one media stream to the content provider for broadcast on the broadcast media channel; recording the media stream from the caching unit to produce a recorded media stream; and upon a fault being detected at the caching unit, providing at least a portion of the recorded media stream to the content provider....On the other hand, Patent No. 10524002 (application 16152606) Claims 1, 4, 7, 13 similarly, claims: (1) A computer-implemented method, comprising: 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

Art Unit: 2421

types; obtaining content corresponding to the plurality of multimedia items from at least one source offering the content in at least one first format; rendering a web page by a browser using the content; generating 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; assembling the at least one media stream using the temporal sequence of screen captures; and providing the at least one media stream to the content provider for broadcast on the broadcast media channel; 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; and wherein the web page is rendered in parallel in multiple threads.... (4) A computer-implemented method, comprising: 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; obtaining content corresponding to the plurality of multimedia items from at least one source offering the content in at least one first format; rendering a web page by a browser using the content; generating 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; assembling the at least one media stream using the temporal sequence of screen captures; and providing the at least one media stream to the content provider for broadcast on the broadcast media channel; wherein assembling the at least one media stream

Art Unit: 2421

comprises inserting at least one MPEG packet including metadata corresponding to the multimedia item; and wherein the web page is rendered in parallel in multiple threads.

(7) A system, comprising: a multicast server configured to generate parameters relating to at least one of video content, image content and audio content, and configured to output the parameters via MPEG outputs; a caching server communicatively coupled to the multicast server, and configured to receive and store the parameters, create a temporal sequence of screen captures of a rendered web page, where each said screen capture defines content of the rendered web page at a given time, and at least two adjacent screen captures in the temporal sequence illustrate a dynamic change of at least a portion of the video content, image content or audio content over time, assemble the temporal sequence of screen captures, and provide at least one of the video content, image content and audio content to the multicast server for generating a multicast stream with MPEG encoded video and audio; and a monitoring system configured to maintain generation of video and audio files, even in failure cases.... For that reason, Application's Claim(s) 24-49 and Patented Claims 1-13 are not patentably distinct from each other, and is therefore an obvious variant thereof.

Claims 24, 33, 48-49 of the instant application is fully encompassed by the combination of Patented Claims 1-13 except for performing over TCP-IP features of the instant application. (US PG PUB: 20090064248) to (Kwan) teaches transmitting using TCP-IP as a way to transmit video data delivery (P. 142). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Patented Claims 1-13 by performing over TCP-IP as taught by Kwan in order to improve video data delivery efficiently. Allowance of

Art Unit: 2421

application claims 24-49 would result in an unjustified time- wise extension of the monopoly granted for the invention defined by patented claims 1-13.

Claims 24-49 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-21 of U.S. Patent No. 10123074 (application 15538911) since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows:

Application's Claim(s) 24, 33, 48-49 similarly claim: (24) A computer implemented method, comprising: creating a plurality of multimedia assets at a caching unit, for each one of the plurality of multimedia assets: determining that there is sufficient storage space for the multimedia asset at the caching unit; generating a channel identifier for the multimedia asset; retrieving from a cloud service a plurality of media files to be included in the multimedia asset including a media identifier for each one of the media files; for each one of the media files, creating a custom hypertext transfer markup language (HTML) user interface that includes video; encoding each of the media files and encapsulating them together using an MPEG transport stream format; storing each one of the multimedia assets at the caching unit; receiving a request at the caching unit for one of the multimedia assets from a broadcasting unit; and responsive to receiving the request, the caching unit providing the multimedia asset to the broadcasting unit in the MPEG transport stream format. (33) A computer-

Art Unit: 2421

implemented method comprising: virtualizing a system including a virtualized caching server, wherein the virtualized caching server performs :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; obtaining content corresponding to the plurality of multimedia items from at least one source offering the content in at least one first format; rendering a web page by a browser using the content; generating 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; assembling the at least one media stream using the temporal sequence of screen captures; and providing the at least one media stream to the content provider for broadcast on the broadcast media channel.... (49) A computer-implemented method comprising: at a caching unit: 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; obtaining content corresponding to the plurality of multimedia items from at least one source offering the content in at least one first format; rendering a web page by a browser using the content; generating 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; assembling the at least one media stream using the temporal sequence of screen captures; at a multicast unit that is operable connected to the caching unit: providing the at least one media stream to the content

Art Unit: 2421

provider for broadcast on the broadcast media channel; recording the media stream from the caching unit to produce a recorded media stream; and upon a fault being detected at the caching unit, providing at least a portion of the recorded media stream to the content provider....On the other hand, Patent No. 10123074 (application 15538911) Claims 1, 12, 17 similarly, claims: (1) 1. A computer-implemented method comprising: 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; obtaining content corresponding to the plurality of multimedia items from at least one source offering the content in at least one first format; rendering a web page by a browser using the content; generating 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; assembling the at least one media stream using the temporal sequence of screen captures; and providing the at least one media stream to the content provider for broadcast on the broadcast media channel. ... (12) A system comprising: at least one processor; 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: 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; retrieve, from a cloud based service, multimedia content corresponding to the plurality of multimedia items, the multimedia content in a first format; render a web page by a

Art Unit: 2421

browser using the multimedia content; 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; merge the temporal sequence screen captures with the at least one audio file to create the media stream; and send the media stream to the content provider. ... (17) A non-transitory computer-readable storage medium having stored therein instructions which, when executed by a processor, cause the processor to perform operations comprising: 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; obtaining content corresponding to the plurality of multimedia items from at least one source offering the content in at least one first format; rendering a web page by a browser using the content; 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; assembling the at least one media stream using the sequence of screen captures; and providing the at least one media stream to the content provider for broadcast on the broadcast media channel..... For that reason, Application's Claim(s) 24-49 and Patented Claims 1-21 are not patentably distinct from each other, and is therefore an obvious variant thereof.

Claims 24, 33, 48-49 of the instant application is fully encompassed by the combination of Patented Claims 1-21 except for performing over TCP-IP features of the instant application. (US PG PUB: 20090064248) to (Kwan) teaches transmitting using TCP-IP as a way to transmit

Art Unit: 2421

video data delivery (P. 142). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Patented Claims 1-21 by performing over TCP-IP as taught by Kwan in order to improve video data delivery efficiently. Allowance of application claims 24-49 would result in an unjustified time-wise extension of the monopoly granted for the invention defined by patented claims 1-21.

Therefore, obviousness-type double patenting is appropriate.

<http://www.uspto.gov/patents-application-process/applying-online/eternal-disclaimer>

Allowable Subject Matter

Claims 24-49 can be allowed if the obvious double patenting rejection can be overcome.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RONG LE whose telephone number is (571)270-7637. The examiner can normally be reached on M-F (9 am - 6pm).

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

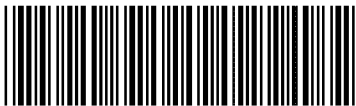
Art Unit: 2421

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on 5712721915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <https://ppair-my.uspto.gov/pair/PrivatePair>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/RONG LE/

Primary Examiner, Art Unit 2421

<i>Search Notes</i> 	Application/Control No. 16/729,986	Applicant(s)/Patent Under Reexamination HERNANDEZ-MONDRAGON, Edwin A.
	Examiner RONG LE	Art Unit 2421

CPC - Searched*		
Symbol	Date	Examiner
H04N21/233,H04N21/234309,H04N21/2387,H04N21/4312,H04N21/440218,H04N21/47217,H04N21/6118,H04N21/6143,H04N21/6405,H04N21/64322,H04N21/8106,H04N21/8133,H04N21/8153,H04N21/84,H04N21/8547	02/05/2021	rle

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
H04N21/233,H04N21/234309,H04N21/2387,H04N21/4312,H04N21/440218,H04N21/47217,H04N21/6118,H04N21/6143,H04N21/6405,H04N21/64322,H04N21/8106,H04N21/8133,H04N21/8153,H04N21/84,H04N21/8547	02/05/2021	rle

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
EAST	USPGPUB, USPAT	02/05/2021	rle

--	--

<i>Index of Claims</i> 	Application/Control No. 16/729,986	Applicant(s)/Patent Under Reexamination HERNANDEZ-MONDRAGON, Edwin A.
	Examiner RONG LE	Art Unit 2421

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS										
☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47										
CLAIM		DATE								
Final	Original	02/05/2021								
	1	-								
	2	-								
	3	-								
	4	-								
	5	-								
	6	-								
	7	-								
	8	-								
	9	-								
	10	-								
	11	-								
	12	-								
	13	-								
	14	-								
	15	-								
	16	-								
	17	-								
	18	-								
	19	-								
	20	-								
	21	-								
	22	-								
	23	-								
	24	✓								
	25	✓								
	26	✓								
	27	✓								
	28	✓								
	29	✓								
	30	✓								
	31	✓								
	32	✓								
	33	✓								
	34	✓								
	35	✓								
	36	✓								
	37	✓								
	38	✓								
	39	✓								
	40	✓								
	41	✓								
	42	✓								

<i>Index of Claims</i> 	Application/Control No. 16/729,986	Applicant(s)/Patent Under Reexamination HERNANDEZ-MONDRAGON, Edwin A.
	Examiner RONG LE	Art Unit 2421

CLAIM		DATE								
Final	Original	02/05/2021								
	43	✓								
	44	✓								
	45	✓								
	46	✓								
	47	✓								
	48	✓								
	49	✓								

Bibliographic Data

Application No: 16/729,986

Foreign Priority claimed: ☐ Yes ☒ No

35 USC 119 (a-d) conditions met: ☐ Yes ☐ No ☐ Met After Allowance

Verified and Acknowledged:

/RONG LE/

Examiner's Signature

Initials

Title:

METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA
CONTENT DELIVERY TO CABLE TV AND SATELLITE
OPERATORS

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
12/30/2019	725	2421	MONDRAGON_19_NPA1
RULE			

APPLICANTS

INVENTORS

Edwin A. HERNANDEZ-MONDRAGON, Coral Springs, FL, UNITED STATES

CONTINUING DATA

This application is a CON of 16152606 10/05/2018 PAT 10524002

16152606 is a CON of 15538911 06/22/2017 PAT 10123074

15538911 is a 371 of PCT/US2015/067464 12/22/2015

PCT/US2015/067464 has PRO of 62095504 12/22/2014

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

01/22/2020

**** SMALL ENTITY ****

STATE OR COUNTRY

UNITED STATES

ADDRESS

The Concept Law Group, P.A.
6400 North Andrews Avenue, Suite 500
Fort Lauderdale, FL 33309
UNITED STATES

FILING FEE RECEIVED

\$1,165

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L3	3,278	((load adj balanc\$4) with server) and (control adj messag\$4)	US-PGPUB; USPAT	OR	OFF	2021/02/05 15:35
L4	220	mpeg and L3	US-PGPUB; USPAT	OR	OFF	2021/02/05 15:35
L5	157	(tcp\$1ip tcpip) and L4	US-PGPUB; USPAT	OR	OFF	2021/02/05 15:36
L13	42,586	((H04N21/233 OR H04N21/234309 OR H04N21/2387 OR H04N21/4312 OR H04N21/440218 OR H04N21/47217 OR H04N21/6118 OR H04N21/6143 OR H04N21/6405 OR H04N21/64322 OR H04N21/8106 OR H04N21/8133 OR H04N21/8153 OR H04N21/84 OR H04N21/8547).CPC.)	US-PGPUB; USPAT	OR	OFF	2021/02/05 16:11
L14	18	L13 and L4	US-PGPUB; USPAT	OR	OFF	2021/02/05 16:11
L15	16	("20140068690" "20140143437" "7020888" "20140098815" "20120204217" "8769602" "6886178" "20140351871" "20080098426" "20100192178" "20030115612" "20090178003" "20020138852" "20080040354" "7320025" "20150319004").PN.	US-PGPUB; USPAT	OR	OFF	2021/02/05 16:31
L16	2	(tcp\$1ip tcpip) and 15	US-PGPUB; USPAT	OR	OFF	2021/02/05 16:31
S2	38,051	((H04N21/233 OR H04N21/234309 OR H04N21/2387 OR H04N21/4312 OR H04N21/440218 OR H04N21/47217 OR H04N21/6118 OR H04N21/6143 OR H04N21/6405 OR H04N21/64322 OR H04N21/8106 OR H04N21/8133 OR H04N21/8153 OR H04N21/84 OR H04N21/8547).CPC.)	US-PGPUB; USPAT	OR	OFF	2019/08/22 18:26
S3	10	(web adj3 page\$2 webpag\$2) with render\$4 with ((multiple multi) adj thread\$4 multithread\$3)	US-PGPUB; USPAT	OR	OFF	2019/08/22 18:27

S4	24	S2 and S3(web adj3 page\$2 webpag\$2) with (display\$3 show\$3 playback render\$4) with ((multiple multi) adj thread\$4 multithread\$3)	US-PGPUB; USPAT	OR	OFF	2019/08/22 18:28
S5	2	S2 and S4	US-PGPUB; USPAT	OR	OFF	2019/08/22 18:28
S6	13,941	(webpage\$2 web\$1pag\$2 web adj pag\$2) with (screenshot screen adj shot\$3 captur\$4)	US-PGPUB; USPAT	OR	OFF	2019/08/22 18:30
S7	594	(webpage\$2 web\$1pag\$2 web adj pag\$2) with (screenshot screen adj shot\$3 captur\$4) with (chang\$4)	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:00
S8	4	S2 and S7	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:00
S9	1,226	(webpage\$2 web\$1pag\$2 web adj pag\$2) with (screenshot screen adj shot\$3 captur\$4) with (multiple several two three continuous plural\$4)	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:01
S10	57	(remote) same S9	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:01
S11	3	S2 and S10	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:02
S12	0	(livestream\$4) same S9	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:02
S13	34	(broadcast\$3) same S9	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:02
S14	12,912	(load adj balanc\$4) and (control adj messag\$4)	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:03
S15	2,938	((load adj balanc\$4) with server) and (control adj messag\$4)	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:03
S16	179	mpeg and S15	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:04
S17	18	S2 and S16	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:04
S18	9,156	(mpeg\$4 and (control adj messag\$4))	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:13

S19	1,465	S2 and S18	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:13
S20	83	(load adj balanc\$4) and S19	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:13
S21	1	"16152606" and (virtual)	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:26
S36	1	"16729986"	US-PGPUB; USPAT	OR	OFF	2020/12/16 17:37
S37	42,147	((H04N21/233 OR H04N21/234309 OR H04N21/2387 OR H04N21/4312 OR H04N21/440218 OR H04N21/47217 OR H04N21/6118 OR H04N21/6143 OR H04N21/6405 OR H04N21/64322 OR H04N21/8106 OR H04N21/8133 OR H04N21/8153 OR H04N21/84 OR H04N21/8547).CPC.)	US-PGPUB; USPAT	OR	OFF	2020/12/16 17:38

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L6	20	"hernandez-mondragon".in.	US-PGPUB; USPAT	OR	OFF	2021/02/05 15:37
L7	42,476	(web adj3 page).clm.	US-PGPUB; USPAT	OR	OFF	2021/02/05 15:37
L8	31,028	(chang\$3 with content).clm.	US-PGPUB; USPAT	OR	OFF	2021/02/05 15:37
L9	192,915	(dynamic).clm.	US-PGPUB; USPAT	OR	OFF	2021/02/05 15:37
L10	4	L6 and L7	US-PGPUB; USPAT	OR	OFF	2021/02/05 15:37
L11	4	L10 and L9	US-PGPUB; USPAT	OR	OFF	2021/02/05 15:37
L12	4	L11 and L8	US-PGPUB; USPAT	OR	OFF	2021/02/05 15:37
L17	1	"10123074".pn.	US-PGPUB; USPAT	OR	OFF	2021/02/05 16:38
L18	1	"10524002".pn.	US-PGPUB; USPAT	OR	OFF	2021/02/05 16:38
L19	0	(tcp\$1ip tcpip).clm. and (L17 or L18)	US-PGPUB; USPAT	OR	ON	2021/02/05 16:38

L20	3	"9106800"	US-PGPUB; USPAT	OR	ON	2021/02/05 16:41
L21	2	"20090064248" and (tcp\$1ip tcpip)	US-PGPUB; USPAT	OR	ON	2021/02/05 16:42
S22	17	"hernandez-mondragon".in.	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:49
S23	39,730	(web adj3 page).clm.	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:49
S24	27,349	(chang\$3 with content).clm.	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:50
S25	173,790	(dynamic).clm.	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:50
S26	20,717	(http rtsp).clm.	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:50
S27	3,114	(render\$3 with parallel).clm.	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:50
S28	8,783	((multiple multi) near5 thread\$2).clm.	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:51
S29	2	S22 and S23	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:51
S30	2	S29 and S25	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:51
S31	2	S30 and S24	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:51
S32	1	S31 and S27	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:52
S33	1	S32 and S28	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:52
S34	106,310	((maintain generat\$4) with (video audio)).clm.	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:53
S35	1	S32 and S34	US-PGPUB; USPAT	OR	OFF	2019/08/22 19:53
S38	1	"10123074".pn.	US-PGPUB; USPAT	OR	OFF	2021/01/28 15:52
S39	1	"10524002".pn.	US-PGPUB; USPAT	OR	OFF	2021/01/28 15:53

2/5/2021 5:07:13 PM

C:\Users\rl\Documents\EAST\Workspaces\16729986.wsp

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 16/729,986		Filing Date 12/30/2019		☐ To be Mailed			
ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO											
APPLICATION AS FILED - PART I											
		(Column 1)		(Column 2)							
FOR		NUMBER FILED		NUMBER EXTRA		RATE (\$)		FEE (\$)			
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A		N/A		N/A					
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))		N/A		N/A		N/A					
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))		N/A		N/A		N/A					
TOTAL CLAIMS (37 CFR 1.16(i))		minus 20 = *				x \$50 =					
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 = *				x \$230 =					
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))		If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))											
* If the difference in column 1 is less than zero, enter "0" in column 2.						TOTAL					
APPLICATION AS AMENDED - PART II											
		(Column 1)		(Column 2)		(Column 3)					
AMENDMENT	05/10/2021	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 26	Minus	** 26	= 0			x \$50 =		0	
	Independent (37 CFR 1.16(h))	* 4	Minus	*** 4	= 0			x \$240 =		0	
	☐ Application Size Fee (37 CFR 1.16(s))										
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
								TOTAL ADD'L FEE		0	
		(Column 1)		(Column 2)		(Column 3)					
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=			x \$0 =			
	Independent (37 CFR 1.16(h))	*	Minus	***	=			x \$0 =			
	☐ Application Size Fee (37 CFR 1.16(s))										
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
								TOTAL ADD'L FEE			
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.								LIE			
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".								/JACQUELYN L WILLIAMS/			
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".											
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.											

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appln. No. : 16/729,986 Confirmation No. 7220
Inventor : Edwin A. Hernandez-Mondragon
Filed : Dec. 30, 2019
TC/A.U. : 2421
Examiner : Le, Rong
Docket No. : MONDRAGON_19_NPA1

RESPONSE TO OFFICE ACTION

Commissioner for Patents
VIA EFS-WEB FILING
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Office Action mailed Feb. 10, Applicant responds as follows:

RESPONSE

Claims 24 to 49 were rejected over claims 1 to 13 of US patent number 10524002, commonly owned by the applicant. Applicant herewith files a terminal disclaimer to overcome the rejection.

CONCLUSION

Claims 24-49 are believed to be in condition for allowance in light of the amendments and/or arguments presented herein. However, should the Examiner identify further action that will place the claims in condition for allowance the Examiner is invited to contact the undersigned representative.

Respectfully submitted,

Date: May 10, 2021

/SCOTT M. GARRETT/
Scott M. Garrett, Registration No. 39,988
The Concept Law Group
Customer No. 11930
6400 North Andrews Avenue, Suite 500
Fort Lauderdale, Florida 33309
Office: (754) 300-1500
Direct: (754) 300-1495

Electronic Acknowledgement Receipt

EFS ID:	42684848
Application Number:	16729986
International Application Number:	
Confirmation Number:	7220
Title of Invention:	METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS
First Named Inventor/Applicant Name:	Edwin A. HERNANDEZ-MONDRAGON
Customer Number:	11930
Filer:	Scott D. Smiley/Sandra Gatov
Filer Authorized By:	Scott D. Smiley
Attorney Docket Number:	MONDRAGON_19_NPA1
Receipt Date:	10-MAY-2021
Filing Date:	30-DEC-2019
Time Stamp:	18:17:44
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment/Req. Reconsideration-After Non-Final Reject	MONDRAGON_19_NPA1_R2OA_Flat.pdf	53254 ac321d39be8d05909c91f90b6ec57c0608c5f7e4	no	1

Warnings:

Information:	
Total Files Size (in bytes):	53254
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.	

Doc Code: DIST.E.FILE Document Description: Electronic Terminal Disclaimer - Filed		PTO/SB/26 U.S. Patent and Trademark Office Department of Commerce	
Electronic Petition Request	TERMINAL DISCLAIMER TO OBIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT		
Application Number	16729986		
Filing Date	30-Dec-2019		
First Named Inventor	Edwin HERNANDEZ-MONDRAGON		
Attorney Docket Number	MONDRAGON_19_NPA1		
Title of Invention	METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS		
☒ Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action ☒ This electronic Terminal Disclaimer is not being used for a Joint Research Agreement.			
Owner		Percent Interest	
Edwin A. HERNANDEZ-MONDRAGON		100%	
The owner(s) with percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent number(s) 10524002 as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns. In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later: - expires for failure to pay a maintenance fee; - is held unenforceable; - is found invalid by a court of competent jurisdiction; - is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321; - has all claims canceled by a reexamination certificate; - is reissued; or - is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer. ☒ Terminal disclaimer fee under 37 CFR 1.20(d) is included with Electronic Terminal Disclaimer request.			

☐ I certify, in accordance with 37 CFR 1.4(d)(4), that the terminal disclaimer fee under 37 CFR 1.20(d) required for this terminal disclaimer has already been paid in the above-identified application.	
Applicant claims the following fee status: ☒ Small Entity ☐ Micro Entity ☐ Regular Undiscounted	
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.	
THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES I certify, in accordance with 37 CFR 1.4(d)(4) that I am: ☒ An attorney or agent registered to practice before the Patent and Trademark Office who is of record in this application Registration Number <u>55627</u> ☐ A sole inventor ☐ A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application ☐ A joint inventor; all of whom are signing this request	
Signature	/Scott D. Smiley/
Name	Scott D. Smiley

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
 Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

Electronic Patent Application Fee Transmittal				
Application Number:		16729986		
Filing Date:		30-Dec-2019		
Title of Invention:		METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS		
First Named Inventor/Applicant Name:		Edwin A. HERNANDEZ-MONDRAGON		
Filer:		Scott D. Smiley/Sandra Gatov		
Attorney Docket Number:		MONDRAGON_19_NPA1		
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
STATUTORY OR TERMINAL DISCLAIMER	2814	1	170	170
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				170

Doc Code: DISQ.E.FILE

Document Description: Electronic Terminal Disclaimer – Approved

Application No.: 16729986

Filing Date: 30-Dec-2019

Applicant/Patent under Reexamination: HERNANDEZ-MONDRAGON

Electronic Terminal Disclaimer filed on May 10, 2021

☒ APPROVED

This patent is subject to a terminal disclaimer

☐ DISAPPROVED

Approved/Disapproved by: Electronic Terminal Disclaimer automatically approved by EFS-Web

U.S. Patent and Trademark Office

Electronic Acknowledgement Receipt

EFS ID:	42684921
Application Number:	16729986
International Application Number:	
Confirmation Number:	7220
Title of Invention:	METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS
First Named Inventor/Applicant Name:	Edwin A. HERNANDEZ-MONDRAGON
Customer Number:	11930
Filer:	Scott D. Smiley/Sandra Gatov
Filer Authorized By:	Scott D. Smiley
Attorney Docket Number:	MONDRAGON_19_NPA1
Receipt Date:	10-MAY-2021
Filing Date:	30-DEC-2019
Time Stamp:	18:23:47
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$ 170
RAM confirmation Number	E202150I23423577
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Terminal Disclaimer-Filed (Electronic)	eTerminal-Disclaimer.pdf	33519	no	2
			a502bba0a67aaf560ac7e376c74e334685c4920a		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30464	no	2
			728c414f629c2d8a54eb2b751086e6bce43fffb		
Warnings:					
Information:					
Total Files Size (in bytes):			63983		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

Doc Code: DIST.E.FILE Document Description: Electronic Terminal Disclaimer - Filed		PTO/SB/26 U.S. Patent and Trademark Office Department of Commerce	
Electronic Petition Request	TERMINAL DISCLAIMER TO OBIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT		
Application Number	16729986		
Filing Date	30-Dec-2019		
First Named Inventor	Edwin HERNANDEZ-MONDRAGON		
Attorney Docket Number	MONDRAGON_19_NPA1		
Title of Invention	METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS		
☒ Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action ☒ This electronic Terminal Disclaimer is not being used for a Joint Research Agreement.			
Owner		Percent Interest	
Edwin A. Hernandez-Mondragon		100%	
The owner(s) with percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent number(s) 10123074 as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns. In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later: - expires for failure to pay a maintenance fee; - is held unenforceable; - is found invalid by a court of competent jurisdiction; - is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321; - has all claims canceled by a reexamination certificate; - is reissued; or - is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer. ☒ Terminal disclaimer fee under 37 CFR 1.20(d) is included with Electronic Terminal Disclaimer request.			

☐ I certify, in accordance with 37 CFR 1.4(d)(4), that the terminal disclaimer fee under 37 CFR 1.20(d) required for this terminal disclaimer has already been paid in the above-identified application.	
Applicant claims the following fee status: ☒ Small Entity ☐ Micro Entity ☐ Regular Undiscounted	
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.	
THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES I certify, in accordance with 37 CFR 1.4(d)(4) that I am: ☒ An attorney or agent registered to practice before the Patent and Trademark Office who is of record in this application Registration Number <u>55627</u> ☐ A sole inventor ☐ A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application ☐ A joint inventor; all of whom are signing this request	
Signature	/Scott D. Smiley/
Name	Scott D. Smiley

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
 Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

Electronic Patent Application Fee Transmittal				
Application Number:		16729986		
Filing Date:		30-Dec-2019		
Title of Invention:		METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS		
First Named Inventor/Applicant Name:		Edwin A. HERNANDEZ-MONDRAGON		
Filer:		Scott D. Smiley/Sandra Gatov		
Attorney Docket Number:		MONDRAGON_19_NPA1		
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
STATUTORY OR TERMINAL DISCLAIMER	2814	1	170	170
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				170

Doc Code: DISQ.E.FILE

Document Description: Electronic Terminal Disclaimer – Approved

Application No.: 16729986

Filing Date: 30-Dec-2019

Applicant/Patent under Reexamination: HERNANDEZ-MONDRAGON

Electronic Terminal Disclaimer filed on June 2, 2021

☒ APPROVED

This patent is subject to a terminal disclaimer

☐ DISAPPROVED

Approved/Disapproved by: Electronic Terminal Disclaimer automatically approved by EFS-Web

U.S. Patent and Trademark Office

Electronic Acknowledgement Receipt

EFS ID:	42880579
Application Number:	16729986
International Application Number:	
Confirmation Number:	7220
Title of Invention:	METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS
First Named Inventor/Applicant Name:	Edwin A. HERNANDEZ-MONDRAGON
Customer Number:	11930
Filer:	Scott D. Smiley/Sandra Gatov
Filer Authorized By:	Scott D. Smiley
Attorney Docket Number:	MONDRAGON_19_NPA1
Receipt Date:	02-JUN-2021
Filing Date:	30-DEC-2019
Time Stamp:	16:31:02
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$ 170
RAM confirmation Number	E202162G30562807
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Terminal Disclaimer-Filed (Electronic)	eTerminal-Disclaimer.pdf	33539	no	2
			6e9f54f6d2b0359afb9a255c827a9d29cc5d f117		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30467	no	2
			76917a9b2c61d9503db7223d7d3a2034b7f c864f		
Warnings:					
Information:					
Total Files Size (in bytes):			64006		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/729,986	12/30/2019	Edwin A. HERNANDEZ-MONDRAGON	MONDRAGON_19_NPA1	7220
11930	7590	06/07/2021	EXAMINER	
The Concept Law Group, P.A. 6400 North Andrews Avenue, Suite 500 Fort Lauderdale, FL 33309			LE, RONG	
			ART UNIT	PAPER NUMBER
			2421	
			NOTIFICATION DATE	DELIVERY MODE
			06/07/2021	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

info@conceptlaw.com
scott@conceptlaw.com
sgarrett@conceptlaw.com

<i>Examiner-Initiated Interview Summary</i>	Application No. 16/729,986	Applicant(s) HERNANDEZ-MONDRAGON, Edwin A.		
	Examiner RONG LE	Art Unit 2421	AIA (First Inventor to File) Status Yes	Page 1 of 1

All Participants (applicant, applicants representative, PTO personnel)	Title	Type
RONG LE	Primary Examiner	Telephonic
Scott M.Garrett (reg. no. 39,988)	Attorney of Record	

Date of Interview: 02 June 2021

Issues Discussed:

Other

Examiner indicated that an obviousness double patent rejection was cited in this case with Patent No. 10524002, and Patent No.10123074 in the non-final rejection from 2/10/2021. A terminal disclaimer was filed and approved for Patent No. 10524002, but not Patent No.10123074. Applicant's representative indicated that might be an oversight and will file the eTerminal disclaimer for No.10123074 shortly. Applicant will reply formally.

/RONG LE/ Primary Examiner, Art Unit 2421	
Applicant is reminded that a complete written statement as to the substance of the interview must be made of record in the application file. It is the applicants responsibility to provide the written statement, unless the interview was initiated by the Examiner and the Examiner has indicated that a written summary will be provided. See MPEP 713.04 Please further see: MPEP 713.04 Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews, paragraph (b) 37 CFR § 1.2 Business to be transacted in writing	

Applicant recordation instructions: It is not necessary for applicant to provide a separate record of the substance of interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

11930 7590 06/09/2021
The Concept Law Group, P.A.
6400 North Andrews Avenue, Suite 500
Fort Lauderdale, FL 33309

EXAMINER

LE, RONG

ART UNIT

PAPER NUMBER

2421

DATE MAILED: 06/09/2021

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/729,986	12/30/2019	Edwin A. HERNANDEZ-MONDRAGON	MONDRAGON_19_NPA1	7220

TITLE OF INVENTION: METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$600	\$0.00	\$0.00	\$600	09/09/2021

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

11930 7590 06/09/2021
The Concept Law Group, P.A.
6400 North Andrews Avenue, Suite 500
Fort Lauderdale, FL 33309

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/729,986	12/30/2019	Edwin A. HERNANDEZ-MONDRAGON	MONDRAGON_19_NPA1	7220

TITLE OF INVENTION: METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$600	\$0.00	\$0.00	\$600	09/09/2021

EXAMINER	ART UNIT	CLASS-SUBCLASS
LE, RONG	2421	725-139000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,

1 _____

(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. Fees submitted: ☐ Issue Fee ☐ Publication Fee (if required) ☐ Advance Order - # of Copies _____

4b. Method of Payment: (Please first reapply any previously paid fee shown above)

☐ Electronic Payment via EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. Change in Entity Status (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/729,986	12/30/2019	Edwin A. HERNANDEZ-MONDRAGON	MONDRAGON_19_NPA1	7220
11930	7590	06/09/2021	EXAMINER	
The Concept Law Group, P.A. 6400 North Andrews Avenue, Suite 500 Fort Lauderdale, FL 33309			LE, RONG	
			ART UNIT	PAPER NUMBER
			2421	
DATE MAILED: 06/09/2021				

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b) (2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, under the Espionage Laws, if the agency becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 16/729,986	Applicant(s) HERNANDEZ-MONDRAGON, Edwin A.	
	Examiner RONG LE	Art Unit 2421	AIA (FITF) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 06/02/2021.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are 24-49. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov**.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☐ All b) ☐ Some *c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. ☐ Notice of References Cited (PTO-892) | 5. ☐ Examiner's Amendment/Comment |
| 2. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____. | 6. ☒ Examiner's Statement of Reasons for Allowance |
| 3. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material _____. | 7. ☐ Other _____. |
| 4. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____. | |

/RONG LE/
Primary Examiner, Art Unit 2421

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Miscellaneous

Claims pending: 24-49

Claims amended: N/A

Claims cancelled: N/A

New claims: N/A

Allowable Subject Matter

Claims 24-49 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: Claim(s) 24, 33, 48-49 (and their respective dependent claims) is/are allowable. Claim(s) 24-49 comprise a unique combination of elements that are not taught or suggested by the art of record when considering the claims as a whole, specifically with receiving from a content provider request for media stream for playback on broadcast media channel, wherein media stream consist of plurality of multimedia items of different types.

Obtaining content corresponding to plurality of multimedia items from a source in a first format, and performing that over a first TCP-IP socket of caching unit. Rendering a web page by a browser using the content, and generating a temporal sequence of screen captures of the rendered web page, wherein each screen capture defines all the content of the web page at a

Art Unit: 2421

given time, and adjacent screen captures illustrate a dynamic change of a portion of the content over time. Assembling the media stream using the temporal sequence of screen captures. Provide the assembled media stream to content provider for broadcast on broadcast media channel, and providing a second TCP/IP socket of the caching unit, a status of obtaining, generating, and assembling.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RONG LE whose telephone number is (571)270-7637. The examiner can normally be reached on M-F (9 am - 6pm).

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

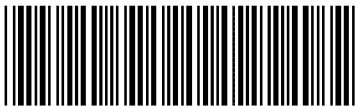
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on 5712721915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2421

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <https://ppair-my.uspto.gov/pair/PrivatePair>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/RONG LE/

Primary Examiner, Art Unit 2421

Search Notes 	Application/Control No. 16/729,986	Applicant(s)/Patent Under Reexamination HERNANDEZ-MONDRAGON, Edwin A.
	Examiner RONG LE	Art Unit 2421

CPC - Searched*		
Symbol	Date	Examiner
H04N21/233,H04N21/234309,H04N21/2387,H04N21/4312,H04N21/440218,H04N21/47217,H04N21/6118,H04N21/6143,H04N21/6405,H04N21/64322,H04N21/8106,H04N21/8133,H04N21/8153,H04N21/84,H04N21/8547	02/05/2021	rlc
H04N21/233,H04N21/234309,H04N21/2387,H04N21/4312,H04N21/440218,H04N21/47217,H04N21/6118,H04N21/6143,H04N21/6405,H04N21/64322,H04N21/8106,H04N21/8133,H04N21/8153,H04N21/84,H04N21/8547	06/04/2021	rlc

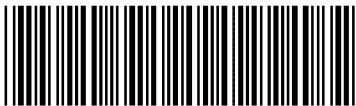
CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

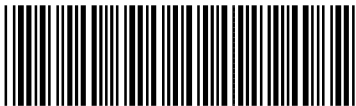
Search Notes		
Search Notes	Date	Examiner
H04N21/233,H04N21/234309,H04N21/2387,H04N21/4312,H04N21/440218,H04N21/47217,H04N21/6118,H04N21/6143,H04N21/6405,H04N21/64322,H04N21/8106,H04N21/8133,H04N21/8153,H04N21/84,H04N21/8547	02/05/2021	rlc
H04N21/233,H04N21/234309,H04N21/2387,H04N21/4312,H04N21/440218,H04N21/47217,H04N21/6118,H04N21/6143,H04N21/6405,H04N21/64322,H04N21/8106,H04N21/8133,H04N21/8153,H04N21/84,H04N21/8547	06/04/2021	rlc

--	--

<i>Search Notes</i> 	Application/Control No. 16/729,986	Applicant(s)/Patent Under Reexamination HERNANDEZ-MONDRAGON, Edwin A.
	Examiner RONG LE	Art Unit 2421

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
EAST	USPGPUB, USPAT	02/05/2021	rle
EAST	USPGPUB, USPAT	06/04/2021	rle

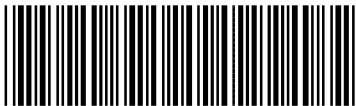
--	--

Issue Classification 	Application/Control No. 16/729,986	Applicant(s)/Patent Under Reexamination HERNANDEZ-MONDRAGON, Edwin A.	
	Examiner RONG LE	Art Unit 2421	

CPC						
Symbol					Type	Version
H04N	/	21	/	440218	F	2013-01-01
H04N	/	21	/	84	I	2013-01-01
H04N	/	21	/	234309	I	2013-01-01
H04N	/	21	/	8106	I	2013-01-01
H04N	/	21	/	8133	I	2013-01-01
H04N	/	21	/	8153	I	2013-01-01
H04N	/	21	/	8547	I	2013-01-01
H04N	/	21	/	233	I	2013-01-01
H04N	/	21	/	2387	I	2013-01-01
H04N	/	21	/	4312	I	2013-01-01
H04N	/	21	/	47217	I	2013-01-01
H04N	/	21	/	6118	I	2013-01-01
H04N	/	21	/	6143	I	2013-01-01
H04N	/	21	/	6405	A	2013-01-01
H04N	/	21	/	64322	A	2013-01-01

CPC Combination Sets				
Symbol	Type	Set	Ranking	Version
/				

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	26	
/RONG LE/ Primary Examiner, Art Unit 2421	04 June 2021	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	49	6

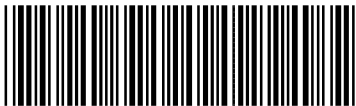
Issue Classification 	Application/Control No. 16/729,986	Applicant(s)/Patent Under Reexamination HERNANDEZ-MONDRAGON, Edwin A.	
	Examiner RONG LE	Art Unit 2421	

INTERNATIONAL CLASSIFICATION				
CLAIMED				
H04N	/	21	/	4402
H04N	/	21	/	84
H04N	/	21	/	2343
H04N	/	21	/	81
H04N	/	21	/	8547
H04N	/	21	/	233
H04N	/	21	/	2387
H04N	/	21	/	431
H04N	/	21	/	472
H04N	/	21	/	61
NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS

CROSS REFERENCES(S)						
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	26	
/RONG LE/ Primary Examiner, Art Unit 2421 (Primary Examiner)	04 June 2021 (Date)	O.G. Print Claim(s) 49	O.G. Print Figure 6

Issue Classification 	Application/Control No. 16/729,986	Applicant(s)/Patent Under Reexamination HERNANDEZ-MONDRAGON, Edwin A.
	Examiner RONG LE	Art Unit 2421

☐ Claims renumbered in the same order as presented by applicant
 ☐ CPA
 ☒ T.D.
 ☐ R.1.47

CLAIMS															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	24	10	33	19	42										
2	25	11	34	20	43										
3	26	12	35	21	44										
4	27	14	36	22	45										
5	28	15	37	23	46										
6	29	16	38	24	47										
7	30	17	39	25	48										
8	31	13	40	26	49										
9	32	18	41												

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	26	
/RONG LE/ Primary Examiner, Art Unit 2421 (Primary Examiner)	04 June 2021 (Date)	O.G. Print Claim(s) 49	O.G. Print Figure 6

EAST Search History

EAST Search History (Prior Art)

<This search history is empty>

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	20	"hernandez-mondragon".in.	US-PGPUB; USPAT	OR	OFF	2021/06/04 12:01
L2	42,987	(web adj3 page).clm.	US-PGPUB; USPAT	OR	OFF	2021/06/04 12:01
L3	31,812	(chang\$3 with content).clm.	US-PGPUB; USPAT	OR	OFF	2021/06/04 12:01
L4	197,294	(dynamic).clm.	US-PGPUB; USPAT	OR	OFF	2021/06/04 12:01
L5	4	L1 and L2	US-PGPUB; USPAT	OR	OFF	2021/06/04 12:01
L6	4	L5 and L4	US-PGPUB; USPAT	OR	OFF	2021/06/04 12:01
L7	4	L6 and L3	US-PGPUB; USPAT	OR	OFF	2021/06/04 12:01
L8	20	"hernandez-mondragon".in.	US-PGPUB; USPAT	OR	OFF	2021/06/04 12:01
L9	42,987	(web adj3 page).clm.	US-PGPUB; USPAT	OR	OFF	2021/06/04 12:01
L10	31,812	(chang\$3 with content).clm.	US-PGPUB; USPAT	OR	OFF	2021/06/04 12:01
L11	197,294	(dynamic).clm.	US-PGPUB; USPAT	OR	OFF	2021/06/04 12:01
L12	4	L8 and L9	US-PGPUB; USPAT	OR	OFF	2021/06/04 12:01
L13	4	L12 and L11	US-PGPUB; USPAT	OR	OFF	2021/06/04 12:01
L14	4	L13 and L10	US-PGPUB; USPAT	OR	OFF	2021/06/04 12:01

6/4/2021 12:11:21 PM

C:\Users\rle\Documents\EAST\Workspaces\16729986.wsp

Bibliographic Data

Application No: 16/729,986

Foreign Priority claimed: ☐ Yes ☒ No

35 USC 119 (a-d) conditions met: ☐ Yes ☒ No ☐ Met After Allowance

Verified and Acknowledged:

/RONG LE/

Examiner's Signature

Initials

Title:

METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA
CONTENT DELIVERY TO CABLE TV AND SATELLITE
OPERATORS

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
12/30/2019	725	2421	MONDRAGON_19_NPA1
RULE			

APPLICANTS

INVENTORS

Edwin A. HERNANDEZ-MONDRAGON, Coral Springs, FL, UNITED STATES

CONTINUING DATA

This application is a CON of 16152606 10/05/2018 PAT 10524002

16152606 is a CON of 15538911 06/22/2017 PAT 10123074

15538911 is a 371 of PCT/US2015/067464 12/22/2015

PCT/US2015/067464 has PRO of 62095504 12/22/2014

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

01/22/2020

**** SMALL ENTITY ****

STATE OR COUNTRY

UNITED STATES

ADDRESS

The Concept Law Group, P.A.
6400 North Andrews Avenue, Suite 500
Fort Lauderdale, FL 33309
UNITED STATES

FILING FEE RECEIVED

\$1,165

Document Description: Issue Fee Payment (PTO-85B)

Issue Fee Transmittal Form

Application Number	Filing Date	First Named Inventor	Atty. Docket No.	Confirmation No.
16729986	30-Dec-2019	Edwin A. HERNANDEZ-MON	MONDRAGON_19_NPA1	7220

TITLE OF INVENTION :

METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS

Entity Status	Application Type	Art Unit	Class - Subclass	EXAMINER
Small	Utility under 35 USC 111(a)	2421	139000	
Issue Fee Due	Publication Due	Total Fee(s) Due	Date Due	Prev. Paid Fee
\$600	\$0	\$600	09-Sep-2021	\$0

1.Change of Correspondence Address and/or Indication Of Fee Address (37 CFR 1.33 & 1.363)

Current Correspondence Address:	Current Indicated Fee Address :
11930 The Concept Law Group, P.A. 6400 North Andrews Avenue, Suite 500 Fort Lauderdale FL 33309 UNITED STATES 754-300-1500 ~~prosecution@conceptlaw.com~~	
☐ Change of correspondence address requested, system generated AIA/122-EFS form attached	☐ Fee Address indication requested, system generated SB/47-EFS form attached

2.Entity Status**Change in Entity Status**

Applicant certifying micro entity status; system generated Micro Entity certification form attached. See 37 CFR 1.29.

Note: Absent a valid certification of micro entity status, issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
If this box is checked, you will be prompted to choose a micro entity status on the gross income basis (37 CFR 1.29(a)) or the institution of higher education basis (37 CFR 1.29(d)), and make the applicable certification online.



Applicant asserting small entity status. See 37 CFR 1.27.

Note: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.



Applicant changing to regular undiscounted fee status.

Note: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.



Document Description: Issue Fee Payment (PTO-85B)

3.The Following Fee(s) Are Submitted:

☒ Issue Fee

☐ I authorize USPTO to apply my previously paid issue fee to the current fees due

☐ Publication Fee

☐ The Director is hereby authorized to apply my previously paid issue fee to the current fee due and to charge deficient fees to Deposit Account Number _____

☐ Advance Order - # of copies _____

☐ If in **addition** to the payment of the issue fee amount submitted with this form, there are any discrepancies in any amount(s) due, the Director is authorized to charge any deficiency, or credit any overpayment, to Deposit Account Number _____.
The **issue fee must be submitted** with this form. **If payment of the issue fee does not accompany this form, checking this box and providing a deposit account number will NOT be effective to satisfy full payment of the fee(s) due.**

4.Firm and/or Attorney Names To Be Printed

NOTE: If no name is listed, no name will be printed
For printing on the patent front page, list to be displayed as entered

1. The Concept Law Group, PA
2. Scott D. Smiley
3. Scott M. Garrett

5.Assignee Name(s) and Residence Data To Be Printed

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

Name	City	State	Country	Category
------	------	-------	---------	----------

6.Signature

I certify, in accordance with 37 CFR 1.4(d)(4) that I am an attorney or agent registered to practice before the Patent and Trademark Office who has filed and has been granted power of attorney in this application. I also certify that this Fee(s) Transmittal form is being transmitted to the USPTO via EFS-WEB on the date indicated below.

Signature	/Scott D. Smiley/	Date	09-03-2021
Name	Scott D. Smiley	Registration Number	55627

Electronic Patent Application Fee Transmittal				
Application Number:		16729986		
Filing Date:		30-Dec-2019		
Title of Invention:		METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS		
First Named Inventor/Applicant Name:		Edwin A. HERNANDEZ-MONDRAGON		
Filer:		Scott D. Smiley/Sandra Gatov		
Attorney Docket Number:		MONDRAGON_19_NPA1		
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
UTILITY APPL ISSUE FEE	2501	1	600	600
PUBL. FEE- EARLY, VOLUNTARY, OR NORMAL	1504	1	0	0
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				600

Electronic Acknowledgement Receipt

EFS ID:	43679118
Application Number:	16729986
International Application Number:	
Confirmation Number:	7220
Title of Invention:	METHOD, SYSTEM, AND APPARATUS FOR MULTIMEDIA CONTENT DELIVERY TO CABLE TV AND SATELLITE OPERATORS
First Named Inventor/Applicant Name:	Edwin A. HERNANDEZ-MONDRAGON
Customer Number:	11930
Filer:	Scott D. Smiley/Sandra Gatov
Filer Authorized By:	Scott D. Smiley
Attorney Docket Number:	MONDRAGON_19_NPA1
Receipt Date:	03-SEP-2021
Filing Date:	30-DEC-2019
Time Stamp:	10:11:15
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$ 600
RAM confirmation Number	E202193A11110427
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	Web85b.pdf	62414	no	2
			5b65f8b4c15b529dcc815c5aca0f2c1a7cde7c0b		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	40322	no	2
			5573da5a0adb587a6e1d9077d46c8cc9a487873d		
Warnings:					
Information:					
Total Files Size (in bytes):			102736		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					



APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/729,986	10/05/2021	11140441	MONDRAGON_19_NPA1	7220

11930 7590 09/15/2021
The Concept Law Group, P.A.
6400 North Andrews Avenue, Suite 500
Fort Lauderdale, FL 33309

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.