AO 120 (Rev. 08/10)

TO:

Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450

REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK

| Aica | muria, VA 22313-1430 | | IKADENIAKK |
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| • | _ | | § 1116 you are hereby advised that a court action has been ntral District of California on the following |
| filed in the U.S. Dis | Patents. (the patent : | | |
| DOCKET NO. 2:21-cv-8230 | DATE FILED 10/18/2021 | U.S. DI | ISTRICT COURT for the Central District of California |
| PLAINTIFF | • | • | DEFENDANT |
| WAG Aquisition, L.L.C. | | | The Walt Disney Company and |
| | | | Walt Disney Streaming Services LLC |
| PATENT OR TRADEMARK NO. | DATE OF PATENT OR TRADEMARK | | HOLDER OF PATENT OR TRADEMARK |
| 1 9,742,824 | 8/22/2017 | WAG | G Acquisition, L.L.C. |
| 2 9,729,594 | 8/8/2017 | WAG | G Acquisition, L.L.C. |
| 3 9,762,636 | 9/12/2017 | WAG | G Acquisition, L.L.C. |
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| | _ | • | |
| | In the above—entitled case, | the following | g patent(s)/ trademark(s) have been included: |
| DATE INCLUDED | INCLUDED BY | Amendment | ☐ Answer ☐ Cross Bill ☐ Other Pleading |
| PATENT OR TRADEMARK NO. | DATE OF PATENT OR TRADEMARK | | HOLDER OF PATENT OR TRADEMARK |
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| In the abo | ve—entitled case, the followi | ng decision h | as been rendered or judgement issued: |
| DECISION OF GENERAL | | | |
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Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450

REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK

| Alexa | ndria, VA 22313-1450 | TRADEMARK | | | | | |
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| filed in the U.S. Dis | | rn Distr | 1116 you are hereby advised that a court ict of Texas, Waco Division | action has been on the following | | | |
| DOCKET NO. | DATE FILED | | STRICT COURT | | | | |
| 6:21-cv-816 | 8/6/2021 | U.S. DI | Western District of Texas, V | Vaco Division | | | |
| PLAINTIFF | | | DEFENDANT | | | | |
| WAG Acquisition, L.L.C | | | Google LLC and YouTube, Inc. | | | | |
| PATENT OR TRADEMARK NO. | DATE OF PATENT OR TRADEMARK | | HOLDER OF PATENT OR T | RADEMARK | | | |
| 1 9,742,824 | 8/22/2017 | WAG | G Acquisition, L.L.C. | | | | |
| 2 9,729,594 | 8/8/2017 | WAG | G Acquisition, L.L.C. | | | | |
| 3 9,762,636 | 9/12/2017 | WAG | G Acquisition, L.L.C. | | | | |
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| PATENT OR TRADEMARK NO. | In the above—entitled case, the form INCLUDED BY DATE OF PATENT OR TRADEMARK | | patent(s)/ trademark(s) have been include Answer Cross Bill HOLDER OF PATENT OR To | Other Pleading | | | |
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| In the above—entitled case, the following decision has been rendered or judgement issued: DECISION/JUDGEMENT | | | | | | | |
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| Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy | | | | | | | |

Amazon / WAG Acquisition Exhibit 1004 Page 2

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450

REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK

| Alexa | ndria, VA 22313-1450 | TRADEMARK | | | | | |
|---|---------------------------------|--------------|---|--|--|--|--|
| In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Western District of Texas, Waco Division on the following Trademarks or Patents. (the patent action involves 35 U.S.C. § 292.): | | | | | | | |
| DOCKET NO. | DATE FILED | | ISTRICT COURT | | | | |
| 6:21-cv-815 | 8/6/2021 | 0.3. Di | Western District of Texas, Waco Division | | | | |
| PLAINTIFF WAG Acquisition, L.L.C | | | DEFENDANT Amazon.com, Inc., Amazon Web Services, Inc., and Amazon.com Services LLC | | | | |
| PATENT OR TRADEMARK NO. | DATE OF PATENT OR TRADEMARK | | HOLDER OF PATENT OR TRADEMARK | | | | |
| 1 9,742,824 | 8/22/2017 | WAG | G Acquisition, L.L.C. | | | | |
| 2 9,729,594 | 8/8/2017 | WAG | G Acquisition, L.L.C. | | | | |
| 3 9,762,636 | 9/12/2017 | WAG | G Acquisition, L.L.C. | | | | |
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| | In the above—entitled case, the | he following | g patent(s)/ trademark(s) have been included: | | | | |
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| In the above | we entitled case the following | a decision b | as been rendered or judgement issued: | | | | |
| In the above—entitled case, the following decision has been rendered or judgement issued: DECISION/JUDGEMENT | | | | | | | |
| CLERK | (B | Y) DEPUTY | Y CLERK DATE | | | | |
| Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy | | | | | | | |
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Amazon / WAG Acquisition Exhibit 1004 Page 3



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

P.O. Box 1450 Alexandria, Virginia 22313-1450 www.uspto.gov

 APPLICATION NO.
 ISSUE DATE
 PATENT NO.
 ATTORNEY DOCKET NO.
 CONFIRMATION NO.

 15/283,544
 09/12/2017
 9762636
 0021-49 CON4B
 5655

25901 7590 08/23/2017

ERNEST D. BUFF ERNEST D. BUFF AND ASSOCIATES, LLC. 231 SOMERVILLE ROAD BEDMINSTER, NJ 07921

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):

Harold Edward Price, Bethel Park, PA; WAG ACQUISITION, L.L.C., Flanders, NJ;

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 <u>SelectUSA.gov</u>.

IR103 (Rev. 10/09)

Receipt date: 11/20/2016 ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /M.M.M, Complete if Known Substitute for form 1449/PTO Application Number 15/283,544 INFORMATION DISCLOSURE Filing Date 10/03/2016 STATEMENT BY APPLICANT First Named Inventor Harold Edward Price Art Unit 2447 (Use as many sheets as necessary) Examiner Name N/A Sheet 8 12 0021-49-CON4B of Attomey Docket Number 242 7 149 811 12-12-2006 | Wise et al.

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|--|---------------|---------------------------|---|------------------------|---------------------|--|
| | | TV VOIC TO | | Application Number | 15/283,544 | |
| l IN | FORM | NATION DISCL | .OSURE | Filing Date | 10/03/2016 | |
| l s | TATE | MENT BY APP | LICANT | First Named Inventor | Harold Edward Price | |
| | | | | Art Unit | 2447 | |
| | (Use | e as many sheets as neces | sary) | Examiner Name | N/A | |
| Sheet | | 6 of | 12 | Attorney Docket Number | 0021-49-CON4B | |
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| | | Application Number 15/283,5 | | 15/283,544 | | |
| INF | ORMATION | DI | SCLOSURE | Filing Date | 10/03/2016 | |
| ST | ATEMENT E | Y A | \PPLICANT | First Named Inventor | Harold Edward Price | |
| | | | | Art Unit | 2447 | |
| | (Use as many sheets as necessary) | | | Examiner Name | N/A | |
| Sheet | 5 | of | 12 | Attorney Docket Number | 0021-49-CON4B | |

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Receipt date: 11/20/2016

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|---------------------------------------|----------|------------|------------------------|---|--------------------------|---------------------------------------|--|
| | | | | | | Application Number | 15/283,544 |
| | INF | ORN | MATION | DISCL | OSURE | Filing Date | 10/02/2016 |
| | ST | ATE | MENT B | Y APPI | _ICANT | First Named Inventor | Harold Edward Price |
| | | // to. | | | | Art Unit | 2447 |
| | | (OS) | e as many shee | ers as neces: | ary) | Examiner Name | N/A |
| | Sheet | | 4 | of | 12 | Attorney Docket Number | 0021-49-CON4B |
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| 4 | | L | · | | | <u> </u> | |

| Substitu | ite for for | m 1449/PTO | | Complete if Known | | |
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| | | | | Application Number | 15/283,544 | |
| | | MATION DISC | | Filing Date | 10/03/2016 | |
| ST | ATE | MENT BY API | PLICANT | First Named Inventor | Harold Edward Price | |
| | /f to | e as many sheets as nece | (consens | Art Unit | 2447 | |
| | , 100. | ····· | | Examiner Name | N/A | |
| Sheet | | 2 of | 12 | Attorney Docket Number | 0021-49-CON4B | |
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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. |
|-----------------------|-----------------------|----------------------|---------------------|------------------|
| 15/283,544 | 10/03/2016 | Harold Edward Price | 0021-49 CON4B | 5655 |
| 25901 ERNEST D. BU | 7590 08/16/201 TFF | 7 | EXAM | INER |
| | JFF AND ASSOCIAT | ES, LLC. | MCLEOD, MA | ARSHALL M |
| BEDMINSTER | | | ART UNIT | PAPER NUMBER |
| | | | 2454 | |
| | | | | |
| | | | MAIL DATE | DELIVERY MODE |
| | | | 08/16/2017 | PAPER |

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.



UNITED STATES DEPARTMENT OF COMMERCE

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Address: COMMISSIONER FOR PATENTS
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Alexandria, Virginia 22313-1450

| APPLICATION NO./ CONTROL NO. | FILING DATE | FIRST NAMED INVENTOR / PATENT IN REEXAMINATION | ATTORNEY DOCKET NO. |
|---------------------------------|------------------|--|---------------------|
| 15/283.544 | 03 October, 2016 | PRICE, HAROLD EDWARD | 0021-49 CON4B |

| | EXAMINER | | |
|--|----------|-------------|--|
| ERNEST D. BUFF ERNEST D. BUFF AND ASSOCIATES, LLC. 231 SOMERVILLE ROAD BEDMINSTER, NJ 07921 | MARSH | IALL MCLEOD | |
| | ART UNIT | PAPER | |
| | 2454 | 20170814 | |

DATE MAILED:

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

Commissioner for Patents

| IDS's dated 06/15/2017 has been considered by the examiner. | | | | | |
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| /MADCHALL MOLFOD/ | /ACTAD NI ZUANI/ | | | | |
| /MARSHALL MCLEOD/ | /AFTAB N. KHAN/ | | | | |
| Examiner, Art Unit 2454 | Primary Examiner, Art Unit 2454 | | | | |
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PTO-90C (Rev.04-03)

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (03-15)
Approved for use through 07/31/2016. OMB 0651-0031
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 contains a valid OMB control number.

| | Application Number | | 15283544 | |
|---|----------------------------|---------------------------------|-------------------|--|
| INFORMATION BIOGLOSUBE | Filing Date | | 2016-10-03 | |
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99) | First Named Inventor Harol | | rold Edward Price | |
| | Art Unit | | 2454 | |
| | Examiner Name | kaminer Name MARSHALL M. MCLEOD | | |
| | Attorney Docket Number | | 0021-49-CON4B | |

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /M.M.M/

| | U.S.PATENTS Remove | | | | | | | | | | |
|--|--|--------------------------|--|--|----------|---------------------|---|---------|--------|--|--|
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| Examiner Initials* Cite No Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published. | | | | | | T5 | | | | | |

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

| Application Number | | 15283544 | |
|------------------------|-----------------|------------------|--|
| Filing Date | | 2016-10-03 | |
| First Named Inventor | Hard | old Edward Price | |
| Art Unit | | 2454 | |
| Examiner Name | SHALL M. MCLEOD | | |
| Attorney Docket Number | | 0021-49-CON4B | |

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /M.M.M/

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

| Application Number | | 15283544 | |
|------------------------|--------------------|------------------|--|
| Filing Date | | 2016-10-03 | |
| First Named Inventor | Hard | old Edward Price | |
| Art Unit | | 2454 | |
| Examiner Name | MARSHALL M. MCLEOD | | |
| Attorney Docket Number | | 0021-49-CON4B | |

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /M.M.M/

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| If you wish | to ad | d add | litional non-patent literature document citation informatio | on please click the Add b | utton Add | | | | | |
| EXAMINER SIGNATURE | | | | | | | | | | |
| Examiner | Signat | ature /MARSHALL M MCLEOD/ Date Considered 08/14/2017 | | | | | | | | |
| *EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant. | | | | | | | | | | |
| ¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached. | | | | | | | | | | |

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

| Application Number | | 15283544 | | |
|---------------------------|--|-----------------|--|--|
| Filing Date | | 2016-10-03 | | |
| First Named Inventor Hard | | ld Edward Price | | |
| Art Unit | | 2454 | | |
| Examiner Name MARS | | SHALL M. MCLEOD | | |
| Attorney Docket Number | | 0021-49-CON4B | | |

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

- The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
- ★ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

| Signature | | Date (YYYY-MM-DD) | 2017-06-15 |
|------------|----------------|---------------------|------------|
| Name/Print | Ernest D. Buff | Registration Number | 25833 |

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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.**

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:

- 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 the Freedom of Information Act requires disclosure of these record s.
- 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.
- 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 inspections or an issued patent.
- 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.

Commissioner for Patents United States Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450

Application No.: 15283544

Applicant: Price
Filing Date: 10/03/2016
Date Mailed: 07/03/2017

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Notice of Allowance Mailed

This application has been accorded an Allowance Date and is being prepared for issuance. The application, however, is incomplete for the reasons below.

Applicant is given two (2) months from the mail date of this Notice within which to respond. This time period for reply is extendable under 37 CFR 1.136(a) for only TWO additional MONTHS.

The application is not in compliance with 37 CFR 1.78, as indicated in the attachment. The consequences of failure to respond within the above-identified time period are set forth in the attachment.

Even if the Office has recognized a benefit claim and has entered it into the Office's database and included it on applicant's filing receipt, the benefit claim is not a proper benefit claim unless the reference in compliance with 37 CFR 1.78 is included, depending upon the application's filing date and as indicated in the attachment, in an application data sheet or in the first sentence(s) of the specification and all other requirements are met.

See attachment.

A copy of this notice <u>MUST</u> be returned with the reply. Please address response to "Mail Stop Issue Fee, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450".

/Vermel Wilson/ Publication Branch Office of Data Management (571) 272-4200

Application No. 15283544

APPLICATION FILED <u>ON OR AFTER</u> SEPTEMBER 16, 2012, NOT IN COMPLIANCE WITH 37 CFR 1.78

| X | The 37 CFR 1.78(d)(2) reference on the application data sheet does not indicate the relationship (continuation, division, continuation-in-part) to the prior U.S. nonprovisional application or international application designating the U.S. See document coded <u>ADS</u> dated <u>10/03/2016</u> , listing application number(s) <u>10825869</u> . |
|---|--|
| | The 37 CFR 1.78(d)(2) reference on the application data sheet does not indicate the relationship (continuation, division, continuation-in-part) to the prior international application designating the U.S. but instead indicates that an application is the national stage of the prior international application. However, the application was filed as a 35 U.S.C. 111 application and was not processed as a 35 U.S.C. 371 application, thus removing the validating link under 35 U.S.C. 119(a)-(d) to a prior foreign application or under 35 U.S.C. 119(e) to a prior U.S. provisional application. See document coded dated , listing application number(s). |
| | The 37 CFR $1.78(d)(2)$ reference on the application data sheet does not provide the U.S. nonprovisional application number (series code and serial number) or, with respect to an international PCT application designating the U.S., it provides the international application number or international filing date but not both. See document coded dated, in which the following is missing: . |
| | The 37 CFR $1.78(d)(2)$ reference on the application data sheet shows an incorrect, incomplete, or illegible U.S. nonprovisional application number, international PCT application number, or international PCT filing date. See document coded dated , in which the following error was made: . |
| | The 37 CFR 1.78(d)(2) reference to the prior U.S. nonprovisional application or international application designating the U.S. is not present on an application data sheet, thus removing the validating link under 35 U.S.C. $119(a)$ -(d) to a prior foreign application or under 35 U.S.C. $119(e)$ to a prior U.S. provisional application. See document coded dated, in which the following is missing: |
| | The 37 CFR $1.78(d)(2)$ reference to the prior U.S. nonprovisional application or international application designating the U.S. is not present on an application data sheet. |
| | The 37 CFR 1.78(a)(3) reference to the prior U.S. provisional application is not present on an application data sheet. |
| | The 37 CFR 1.78(a)(3) reference to the prior U.S. provisional application on an application data sheet does not provide the provisional application number (series code and serial number). See document coded dated, in which the following is missing: \cdot |
| | The 37 CFR 1.78(a)(3) reference to the prior U.S. provisional application on an application data sheet shows an incorrect, incomplete, or illegible U.S. provisional application number. See document coded dated, in which the following error was made: |
| | Other: . |
| | |

HOW TO RESPOND

A proper response to this notice would include any one of: (1) a corrected Application Data Sheet (ADS) pursuant to 37 CFR 1.76(c) which provides benefit information that complies with 37 CFR 1.78(d)(2) or 37 CFR 1.78(a)(3) or (2) a petition filed pursuant to the provisions of 37 CFR 1.78(e) or 37 CFR 1.78(c) if the benefit information from the document identified above by code and date does not accurately reflect the benefits under 35 U.S.C. 119(e), 120, 121, 365(c) or 386(c) as claimed by applicant (a grantable petition would include a corrected ADS pursuant to 37 CFR 1.76(c)). In general, a petition would be required unless the proper benefit claim information was included on a properly signed ADS submitted with the application on filing, or a properly signed corrected ADS in compliance with 37 CFR 1.76(c) (e.g., with underlining to show insertions) that was filed within the time period in 37 CFR 1.78 for making the benefit claim(s), or the Office recognized the benefit claim(s) on the initial filing receipt. Such response may be filed after payment of the issue fee if limited to informalities noted herein. See Waiver of 37 CFR 1.312 for Document Required by Office of Patent Publication, 1280 Off. Gaz. Patent Office 918 (March 23, 2004).

WARNING: If Applicant fails to timely submit a proper response, the benefit information will be deleted and the patent will be printed without the benefit information present.

| Electronic Acl | knowledgement Receipt |
|--------------------------------------|---------------------------------|
| EFS ID: | 29762341 |
| Application Number: | 15283544 |
| International Application Number: | |
| Confirmation Number: | 5655 |
| Title of Invention: | STREAMING MEDIA DELIVERY SYSTEM |
| First Named Inventor/Applicant Name: | Harold Edward Price |
| Customer Number: | 25901 |
| Filer: | ERNEST D BUFF/Ernest Buff |
| Filer Authorized By: | ERNEST D BUFF |
| Attorney Docket Number: | 0021-49 CON4B |
| Receipt Date: | 12-JUL-2017 |
| Filing Date: | 03-OCT-2016 |
| Time Stamp: | 15:25:36 |
| Application Type: | Utility under 35 USC 111(a) |

Payment information:

| Submitted with | n Payment | no | | | |
|--------------------|--|--|--|---------------------|---------------------|
| File Listing | : | | | | |
| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
| | | | 35224 | | |
| 1 | Post Allowance Communication - Incoming | 0021-49CON4B-Response-to- CorrectApplicPapers.pdf | ab2fffcd6ca88dc2528d32201a21d8224c45 50d8 | no | 2 |
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| Information: | | | | | | | | |
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| | | | 851851 | | 9 | | | |
| 2 | Application Data Sheet | 15283544-Corrected-ADS.pdf | 1350bb33a60db8761784d283ba1480e7cc 09fe73 | | | | | |
| Warnings: | | | | | | | | |
| Information: | | | | | | | | |
| This is not an U | SPTO supplied ADS fillable form | | | | | | | |
| | | | 119510 | | | | | |
| 3 | Miscellaneous Incoming Letter | 15283544-NOTICE.pdf | 6fdaf1209d23466d064c3a7f6e55c80c57e6 e892 | no | 2 | | | |
| Warnings: | | | | | | | | |
| Information: | | | | | | | | |
| | | Total Files Size (in bytes) | 10 | 06585 | | | | |

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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : WAG ACQUISITION, Customer No. : 25901

L.L.C.

Serial No. : 15/283,544 Confirmation No. : 5655

Filed : October 3, 2016 Group Art Unit : 2454

Examiner : Marshall M. McLeod

For : STREAMING MEDIA DELIVERY SYSTEM

Response to Notice to File Corrected Application Papers

VIA ELECTRONIC FILING

Mail Stop Issue Fee

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

Dear Sir:

In response to the Notice to File Corrected Application Papers dated July 3, 2017,

Applicant hereby submits a Corrected Application Data Sheet. A copy of the Notice is attached.

The Notice to File Corrected Application Papers notes that the previously filed ADS does not indicate a relationship between the present application and Application No. 10/825,869. The Corrected ADS removes the reference to Application No. 10/825,869. Applicant notes that this

conforms the ADS to the priority claim recognized on the Filing Receipt.

Applicant authorizes the Commissioner to charge any additional fees and/or credit any

overpayments associated with this paper to Deposit Account No. 06-1448, Ref. No.

33986.00002. Further, if a fee is required for an extension of time under 37 C.F.R. § 1.136 not

1

B4706684.1

provided for above, Applicant requests such extension and authorizes the charging of the extension fee to Deposit Account No. 06-1448, Ref. No. 33986.00002.

Dated: July 12, 2017 Respectfully submitted,

/Ernest D. Buff/

Ernest D. Buff (Reg. No. 25,833)

Ernest D. Buff & Associates, LLC 231 Somerville Road Bedminster, NJ 07921

2

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 1.7 | | | 1 76 | Attorney | Docke | et Number | 0021-4 | 9-CON4B | | | |
|-----------------------------------|--|-------------|--------------------------------|----------------------------------|------------|--------------------|------------|-------------|------------|-------------------------------------|----------|
| | | | 1.70 | Application | on Nu | mber | | | | | |
| Title of | Title of Invention STREAMING MEDIA DELIVERY SYSTEM | | | | | | | | | | |
| bibliogra This do | 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. | | | | | | | | | | |
| Secre | ecy Orde | er 37 (| CFR 5.2: | | | | | | | | |
| 1 1 1 | | | | | | | | - | | Secrecy Order purs electronically.) | suant to |
| Inven | tor Infor | matic | n: | | | | | | | | |
| Invent | | | | | | | | | R | еточе | |
| Legal | Name | | | | | | | | | | |
| Prefix | Given Nar | ne | | М | iddle Name | e | | Family | y Name | | Suffix |
| | Harold | | | Ed | dward | | PRICE | | | | |
| Resid | lence Inforn | nation (| Select One) | ● US | Residency | $\stackrel{	o}{-}$ | Non US F | esidency | O Activ | re US Military Service | ; |
| City | Bethel Park | | | State | Province | PA | Coun | try of Res | sidence | US | |
| Mailing | Address of | Invent | or: | | | | | | | | |
| Addre | | IIIVCIII | | Stono | Lano | | | | | | |
| Addre | | | 5949 Pudding | Joine | Lane | | | | | | |
| City | | el Park | | | | | State/Pre | ovince | PA | | |
| | I Code | | 15102 | | | Cou | ntry i | us | 1 ' ' | | |
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| | Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a). | | | | | | | | | | |
| ⊠ Ar | n Address is | being | provided for | the co | rresponde | nce li | nformatio | n of this a | applicatio | n. | |
| Name | 1 | | Ernest D. Buff Name 2 | | | | | | | | |
| Addre | ss 1 | | Ernest D. Bu | Ernest D. Buff & Associates, LLC | | | | | | | |
| Addre | ess 2 | | 231 Somerv | ille Road | t | | | | | | |
| City | | | Bedminster | | | - 1 | State/Prov | ince | NJ | | |

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EBuff@edbuff.com

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| Application Da | ta Sheet 37 CFR 1.76 | Attorney Docket Number | 0021-49-CON4B |
|------------------------------------|------------------------|------------------------|---------------|
| Application Data Sheet 37 GFK 1.70 | | Application Number | |
| Title of Invention | STREAMING MEDIA DELIVE | RY SYSTEM | |

Application Information:

| Title of the Invention | of the Invention STREAMING MEDIA DELIVERY SYSTEM | | | | | |
|---|--|------------------------|-------------------|--|---------|--|
| Attorney Docket Number | 0021-49-CON4B | | Small Entity St | atus Claimed 🔀 | | |
| Application Type | Nonprovisional | | | | | |
| Subject Matter | Utility | | | | | |
| Total Number of Drawing | Sheets (if any) | 3 | Suggested Fig | gure for Publication (if any) | 1 | |
| Filing By Reference | 9 : | | | | | |
| application papers including a spe | ecification and any drav | vings are being filed. | Any domestic bene | FR 1.57(a). Do not complete this sec fit or foreign priority information mu and "Foreign Priority Information"). | | |
| For the purposes of a filing date u reference to the previously filed a | | | | sent application are replaced by this 7(a). | 5 i | |
| Application number of the previously filed application | | ate (YYYY-MM-DD) | | Intellectual Property Authority or 0 | 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: | Custome | r Number | US Pat | ent Practitioner | O Li | mited Recognition | (37 CFR 11.9) |
| Prefix | Given N | ame | Middle Na | me | Family Name | | Suffix | |
| Mr. | Ernest | | D. | | Buff | | | Remove |
| Registration Number 25833 | | | | | | | | |
| Additional Representative Information blocks may be generated within this form by selecting the Add button. | | | | | | | | |

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| Application Da | ata Sheet 37 CFR 1.76 | Attorney Docket Number | 0021-49-CON4B |
|--------------------|-------------------------|------------------------|---------------|
| Application ba | ita oneet or or it i.ro | Application Number | |
| Title of Invention | STREAMING MEDIA DELIVE | RY SYSTEM | |

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 Applicati | Prior Application Status Pending | | Remove | | | | | |
|----------------------------------|----------------------------------|-----------------|-----------------------------|-------------------------------|---|---------------------------------------|----------------------------|--|
| Application Number | | Continuity Type | | Prior Application Number | | Filing or 371(c) Date (YYYY-MM-DD) | | |
| | | Continuation | of | 13815040 | | 2013-01-25 | | |
| Prior Applicati | on Status | Patented | | | | Rei | nove | |
| Application Number | Cont | inuity Type | Prior Application Number | Filing Date (YYYY-MM-DD) | Pat | ent Number | Issue Date (YYYY-MM-DD) | |
| 13815040 | Continua | tion of | 13385375 | 2012-02-16 | 836 | 64839 | 2013-01-29 | |
| Prior Applicati | on Status | Patented | | | | Rer | nove | |
| Application Number | Cont | inuity Type | Prior Application Number | Filing Date (YYYY-MM-DD) | Pat | ent Number | Issue Date (YYYY-MM-DD) | |
| 13385375 | Continua | tion of | 12800177 | 2010-05-10 | 818 | 85611 | 2012-05-22 | |
| Prior Applicati | on Status | Patented | | Remove | | | | |
| Application Number | Cont | inuity Type | Prior Application Number | Filing Date (YYYY-MM-DD) | Pat | ent Number | Issue Date (YYYY-MM-DD) | |
| 12800177 | Continua | tion of | 10893814 | 2004-07-19 | 7716358 | | 2010-05-11 | |
| Prior Applicati | on Status | Patented | | • | | Rer | nove | |
| Application Number | Cont | inuity Type | Prior Application Number | Filing Date (YYYY-MM-DD) | Pat | ent Number | Issue Date (YYYY-MM-DD) | |
| 10893814 | Continua | tion in part of | 09819337 | 2001-03-28 6766376 2004-07-20 | | 2004-07-20 | | |
| Prior Applicati | on Status | Expired | | | | Rer | nove | |
| Application N | lumber | Cont | inuity Type | Prior Application Num | Prior Application Number Filing or 371(c) I (YYYY-MM-DI | | , , | |
| 09819337 | | Claims benefi | t of provisional | 60231997 | | 2000-09-12 | | |
| - Prior Applicati | on Status | Patented - | | | | Rer | nave | |
| Application | Cont | inuity Type | Prior Application | Filing Date | Pat | ent Number | Issue Date | |
| Number | | | Number | (YYYY-MM-DD) | | | (YYYY-MM-DD) | |
| 10825869 | Continua | tion of | 09819337 | 2001 03 28 | 670 | 66376 | -2004-07-20 | |
| Additional Dome by selecting the | | | ge Data may be ge | nerated within this form | 1 | | | |

Foreign Priority Information:

PTO/AIA/14 (11-15)
Approved for use through 04/30/2017. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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| Application Data Sheet 37 CFR 1.76 | | Attorn | ey Docket Number | 0021-49-00 | N4B | | |
|--|--|--------|------------------|--------------|-----|--|--|
| Application Data Sheet 37 Of K 1.70 | | | Applic | ation Number | | | |
| Title of Invention STREAMING MEDIA DELIVERY SYSTEM | | | | | | | |
| constitutes the claim for that is eligible for retrie automatically attempt in responsibility for ensur | 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) ¹ 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 esponsibility 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. | | | | | | | |

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 Da | ata Shoot 37 CED 1 76 | Attorney Docket Number | 0021-49-CON4B |
|------------------------------------|------------------------|------------------------|---------------|
| Application Data Sheet 37 CFR 1.76 | | Application Number | |
| Title of Invention | STREAMING MEDIA DELIVE | RY SYSTEM | |

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 <u>must opt-out</u> of the authorization by checking the corresponding box A or B or both in subsection 2 below.

<u>NOTE</u>: This section of the Application Data Sheet is <u>ONLY</u> reviewed and processed with the <u>INITIAL</u> 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. <u>Priority Document Exchange (PDX)</u> Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby <u>grants the USPTO authority</u> 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. <u>Search Results from U.S. Application to EPO</u> Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby <u>grants the USPTO authority</u> 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.

| | ne instant application. | | | | | | | |
|----|--|--|--|--|--|--|--|--|
| 2. | Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s) | | | | | | | |
| | A. Applicant <u>DOES NOT</u> 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 <u>DOES NOT</u> 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. | | | | | | | |
| | OTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the plication 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 Da | ata Sheet 37 CFR 1.76 | Attorney Docket Number | 0021-49-CON4B |
|--------------------|-------------------------|------------------------|---------------|
| Application be | ita oneet or or it i.ro | Application Number | |
| Title of Invention | STREAMING MEDIA DELIVE | RY SYSTEM | |

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 | C Legal Representative | e under 35 U.S.C. 117 | Joint Inventor | | | | | |
| Person to whom the inventor is | obligated to assign. | O Person who sh | ows sufficient proprietary interest | | | | | |
| If applicant is the legal represe | ntative, indicate the authority | to file the patent applica | tion, the inventor is: | | | | | |
| | | | | | | | | |
| Name of the Deceased or Leg | ally Incapacitated Inventor: | | | | | | | |
| If the Applicant is an Organiza | ation check here. | | | | | | | |
| Organization Name WAG | ACQUISITION, L.L.C. | | | | | | | |
| Mailing Address Information | n For Applicant: | | | | | | | |
| Address 1 3 | Gold Mine Road, Suite 104 | | | | | | | |
| Address 2 | | | | | | | | |
| City F | Flanders | State/Province | NJ | | | | | |
| Country ⁱ US | | Postal Code | 07836 | | | | | |
| Phone Number 9 | 73-691-8717 | Fax Number | 973-691-7427 | | | | | |
| Email Address b | ill@surfernetwork.com | • | | | | | | |
| Additional Applicant Data may | be generated within this form | by selecting the Add bu | itton. | | | | | |

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.

PTO/AIA/14 (11-15)

Approved for use through 04/30/2017. 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 contains a valid OMB control number.

| Application Data Sheet 37 CFR 1.76 | | | 7 CED 4 76 | Attorney Docket Number | | 0021-48 | 0021-49-CON4B | | |
|---|--|-----------|-------------------|------------------------|--------------|---------------|---------------|------------|--|
| | | | Application N | lumber | | | | | |
| Title of Invent | Title of Invention STREAMING MEDIA DELIVERY SYSTEM | | | | | | | | |
| 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 Assigne | ee or Non-A | Applicant | : Assignee is an | Organization | check here. | | | | |
| Prefix | | Given I | Name | Middle Nam | ne | Family Na | ame | Suffix | |
| Mailing Addre | ess Inform | ation Fo | or Assignee inc | luding Non-A | applicant A | ssignee: | | | |
| Address 1 | | | | | | | | | |
| Address 2 | | | | | | | | | |
| City | | | | | State/Pro | vince | | | |
| Country ⁱ | | <u> </u> | | | Postal Cod | de | | | |
| Phone Numb | er | | | | Fax Numb | er | | | |
| Email Addres | ss | | | | | - | | | |
| Additional Ass selecting the A | | | cant Assignee [| Data may be g | enerated wi | ithin this fo | rm by | | |
| | | | | | | | | | |
| 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 | /Ernest D. E | Buff/ | | | | Date (| YYYY-MM-DD | 2016-10-03 | |
| First Name | Ernest | | Last Name | Buff | | Regist | ration Number | 25,833 | |
| Additional Sig | gnature ma | ay be gen | nerated within th | is form by sel | ecting the A | dd button. | | | |
| | | | | | | | | | |

Approved for use through 04/30/2017. 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 contains a valid OMB control number.

| Application Da | eta Sheet 37 CER 1 76 | Attorney Docket Number | 0021-49-CON4B |
|--------------------|------------------------------------|------------------------|---------------|
| Application be | Application Data Sheet 37 CFR 1.76 | | |
| Title of Invention | STREAMING MEDIA DELIVE | RY SYSTEM | |

This collection of information is required by 37 CFR 1.76. 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 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet 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.

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 the Freedom of Information Act requires disclosure of these records.
- 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 CooperationTreaty.
- 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 inspections 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 DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandra, Virginia 22313-1450 www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. | | | |
|-----------------------|---------------------|----------------------|---------------------|------------------|--|--|--|
| 15/283,544 | 10/03/2016 | Harold Edward Price | 0021-49 CON4B | 5655 | | | |
| 25901 ERNEST D. BU | 7590 07/03/2017 | | EXAM | INER | | | |
| | UFF AND ASSOCIATES, | LLC. | MCLEOD, MARSHALL M | | | | |
| BEDMINSTER | | | ART UNIT | PAPER NUMBER | | | |
| | | | 2454 | | | | |
| | | | MAIL DATE | DELIVERY MODE | | | |
| | | | 07/03/2017 | PAPER | | | |

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.

Commissioner for Patents United States Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450 www.uspto.gov

Application No.: 15283544

Applicant: Price
Filing Date: 10/03/2016
Date Mailed: 07/03/2017

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Notice of Allowance Mailed

This application has been accorded an Allowance Date and is being prepared for issuance. The application, however, is incomplete for the reasons below.

Applicant is given two (2) months from the mail date of this Notice within which to respond. This time period for reply is extendable under 37 CFR 1.136(a) for only TWO additional MONTHS.

The application is not in compliance with 37 CFR 1.78, as indicated in the attachment. The consequences of failure to respond within the above-identified time period are set forth in the attachment.

Even if the Office has recognized a benefit claim and has entered it into the Office's database and included it on applicant's filing receipt, the benefit claim is not a proper benefit claim unless the reference in compliance with 37 CFR 1.78 is included, depending upon the application's filing date and as indicated in the attachment, in an application data sheet or in the first sentence(s) of the specification and all other requirements are met.

See attachment.

A copy of this notice <u>MUST</u> be returned with the reply. Please address response to "Mail Stop Issue Fee, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450".

/Vermel Wilson/ Publication Branch Office of Data Management (571) 272-4200

Application No. 15283544

APPLICATION FILED <u>ON OR AFTER</u> SEPTEMBER 16, 2012₅ NOT IN COMPLIANCE WITH 37 CFR 1.78

| X | The 37 CFR 1.78(d)(2) reference on the application data sheet does not indicate the relationship (continuation, division, continuation-in-part) to the prior U.S. nonprovisional application or international application designating the U.S. See document coded <u>ADS</u> dated <u>10/03/2016</u> , listing application number(s) <u>10825869</u> . |
|---|--|
| | The 37 CFR $1.78(d)(2)$ reference on the application data sheet does not indicate the relationship (continuation, division, continuation-in-part) to the prior international application designating the U.S. but instead indicates that an application is the national stage of the prior international application. However, the application was filed as a 35 U.S.C. 111 application and was not processed as a 35 U.S.C. 371 application, thus removing the validating link under 35 U.S.C. $119(a)$ -(d) to a prior foreign application or under 35 U.S.C. $119(e)$ to a prior U.S. provisional application. See document coded dated, listing application number(s). |
| | The 37 CFR $1.78(d)(2)$ reference on the application data sheet does not provide the U.S. nonprovisional application number (series code and serial number) or, with respect to an international PCT application designating the U.S., it provides the international application number or international filing date but not both. See document coded dated, in which the following is missing: |
| | The 37 CFR $1.78(d)(2)$ reference on the application data sheet shows an incorrect, incomplete, or illegible U.S. nonprovisional application number, international PCT application number, or international PCT filing date. See document coded dated , in which the following error was made: . |
| | The 37 CFR 1.78(d)(2) reference to the prior U.S. nonprovisional application or international application designating the U.S. is not present on an application data sheet, thus removing the validating link under 35 U.S.C. $119(a)$ -(d) to a prior foreign application or under 35 U.S.C. $119(e)$ to a prior U.S. provisional application. See document coded dated, in which the following is missing: |
| | The 37 CFR $1.78(d)(2)$ reference to the prior U.S. nonprovisional application or international application designating the U.S. is not present on an application data sheet. |
| | The 37 CFR 1.78(a)(3) reference to the prior U.S. provisional application is not present on an application data sheet. |
| | The 37 CFR $1.78(a)(3)$ reference to the prior U.S. provisional application on an application data sheet does not provide the provisional application number (series code and serial number). See document coded dated, in which the following is missing: . |
| | The 37 CFR 1.78(a)(3) reference to the prior U.S. provisional application on an application data sheet shows an incorrect, incomplete, or illegible U.S. provisional application number. See document coded dated, in which the following error was made: |
| | Other: . |
| | |

HOW TO RESPOND

A proper response to this notice would include any one of: (1) a corrected Application Data Sheet (ADS) pursuant to 37 CFR 1.76(c) which provides benefit information that complies with 37 CFR 1.78(d)(2) or 37 CFR 1.78(a)(3) or (2) a petition filed pursuant to the provisions of 37 CFR 1.78(e) or 37 CFR 1.78(c) if the benefit information from the document identified above by code and date does not accurately reflect the benefits under 35 U.S.C. 119(e), 120, 121, 365(c) or 386(c) as claimed by applicant (a grantable petition would include a corrected ADS pursuant to 37 CFR 1.76(c)). In general, a petition would be required unless the proper benefit claim information was included on a properly signed ADS submitted with the application on filing, or a properly signed corrected ADS in compliance with 37 CFR 1.76(c) (e.g., with underlining to show insertions) that was filed within the time period in 37 CFR 1.78 for making the benefit claim(s), or the Office recognized the benefit claim(s) on the initial filing receipt. Such response may be filed after payment of the issue fee if limited to informalities noted herein. See Waiver of 37 CFR 1.312 for Document Required by Office of Patent Publication, 1280 Off. Gaz. Patent Office 918 (March 23, 2004).

WARNING: If Applicant fails to timely submit a proper response, the benefit information will be deleted and the patent will be printed without the benefit information present.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail

Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450 Alexandria, Virginia 22313-1450 or <u>Fax</u> (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.

25901 7590 06/20/2017 ERNEST D. BUFF ERNEST D. BUFF AND ASSOCIATES, LLC. 231 SOMERVILLE ROAD BEDMINSTER, NJ 07921

Certificate of Mailing or Transmission

Certificate of vialling 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 facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

| Ernest D. Buff | (Depositor's name) |
|------------------|--------------------|
| /Ernest D. Buff/ | (Signature) |
| June 30, 2017 | (Date) |

| APPLICATION NO. | FILING DATE | | FIRST NAMED INVENTOR | | ATTORN | EY DOCKET NO. | CONFIRMATION NO. |
|--|--|--|---|--|--|---|--|
| 15/283,544 FITLE OF INVENTION | 10/03/2016 I: STREAMING MEDIA | DELIVERY SYSTEM | Harold Edward Price | • | 0021-49 CON4B 5655 | | |
| APPLN. TYPE | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE | E FEE | TOTAL FEE(S) DUE | DATE DUE |
| nonprovisional | SMALL | \$480 | \$0 | \$0 | | \$480 | 09/20/2017 |
| EXAN | IINER | ART UNIT | CLASS-SUBCLASS | | | | |
| MCLEOD, M | ARSHALL M | 2454 | 709-219000 | | | | |
| CFR 1.363). Change of corresp Address form PTO/S | ence address or indicatio condence address (or Cha B/122) attached. lication (or "Fee Address D2 or more recent) attach | 2. For printing on the p (1) The names of up to or agents OR, alternativ (2) The name of a singl registered attorney or a 2 registered patent atto listed, no name will be | 3 registered paten rely, e firm (having as a gent) and the name | t attorney | Enn and D | D. Buff Buff & Associates, LLO | |
| | | oletion of this form is NC | T a substitute for filing an | assignment. | oc is iden | unica below, the ac | earness seen med for |
| (A) NAME OF ASSI WAG ACC Please check the appropria. The following fee(s) | GNEE UISITION, L.L.0 riate assignee category or | C. categories (will not be p | (B) RESIDENCE: (CITY FLANDERS, No rinted on the patent): | and STATE OR CEW JERSEY Individual ☑ Ce | OUNTRY | (7) or other private gro | · · · · · · · · · · · · · · · · · · · |
| (A) NAME OF ASSI WAG ACC Please check the appropula. The following fee(s) Issue Fee □ Publication Fee (1) | GNEE UISITION, L.L.0 riate assignee category or | categories (will not be p 4 permitted) | (B) RESIDENCE: (CITY FLANDERS, N rinted on the patent): | and STATE OR CEW JERSEY Individual Cose first reapply and 1. Form PTO-2038 | OUNTRY orporation y previou is attache | or other private gro usly paid issue fee s d. | up entity 🗖 Government shown above) |
| (A) NAME OF ASSI WAG ACC Please check the appropriate. The following fee(s) Issue Fee Publication Fee (1) Advance Order - 1 | GNEE PUISITION, L.L. riate assignee category or are submitted: No small entity discount p | categories (will not be p dermitted) d above) e 37 CFR 1.29 37 CFR 1.27 | (B) RESIDENCE: (CITY FLANDERS, N rinted on the patent): b. Payment of Fee(s): (Plea A check is enclosed. Payment by credit car | and STATE OR C EW JERSEY Individual | ountry previous is attache the require 06144 Entity Stanot be acceler micro nicro entir | or other private gro usly paid issue fee s d. uired fee(s), any def. (enclose ar atus (see forms PTC repted at the risk of entity status, checkity status. | up entity Government shown above) iciency, or credits any nextra copy of this form). 0/SB/15A and 15B), issue application abandonment. ng this box will be taken |
| (A) NAME OF ASSI WAG ACC Please check the appropriate. The following fee(s) Issue Fee Publication Fee (f) Advance Order - in Change in Entity Sta Applicant certifyi Applicant assertin Applicant changin | GNEE PUISITION, L.L. riate assignee category or are submitted: No small entity discount p # of Copies | categories (will not be p descripted) d above) e 37 CFR 1.29 37 CFR 1.27 d fee status. | (B) RESIDENCE: (CITY FLANDERS, Norinted on the patent): b. Payment of Fee(s): (Pleaton Acheck is enclosed. Payment by credit care The director is hereby overpayment, to Depo | and STATE OR C EW JERSEY Individual | ountry orporation y previou is attache ge the requir 06144; Entity Stanot be accurate an outifice an outifice | or other private gro usly paid issue fee s d. aired fee(s), any def. 8 (enclose ar atus (see forms PTC expted at the risk of entity status, checki ty status. ation of loss of entit | up entity Government shown above) iciency, or credits any nextra copy of this form). 0/SB/15A and 15B), issue application abandonment. ng this box will be taken |
| (A) NAME OF ASSI WAG ACC Please check the appropriate. The following fee(s) Issue Fee Publication Fee (f) Advance Order - in the control of t | GNEE QUISITION, L.L.C riate assignee category or are submitted: No small entity discount p # of Copies tus (from status indicate- ng micro entity status. See ng small entity status. See ng to regular undiscounte be signed in accordance v | categories (will not be p depermitted) d above) e 37 CFR 1.29 37 CFR 1.27 d fee status. | (B) RESIDENCE: (CITY FLANDERS, Norinted on the patent): b. Payment of Fee(s): (Pleaton Acheck is enclosed. Payment by credit car The director is hereby overpayment, to Depote NOTE: Absent a valid cefee payment in the micro NOTE: If the application to be a notification of loss NOTE: Checking this borentity status, as applicable | and STATE OR C EW JERSEY Individual Co se first reapply and d. Form PTO-2038 authorized to charge sit Account Number rtification of Micro entity amount will was previously und of entitlement to r t will be taken to be the state of the stat | ountry orporation y previou is attache ge the requir 06144; Entity Stanot be accurate an outifice an outifice | or other private gro usly paid issue fee s d. hired fee(s), any def. (enclose ar atus (see forms PTC epted at the risk of entity status, checki ty status. ation of loss of entit cations. | up entity Government shown above) iciency, or credits any extra copy of this form). 0/SB/15A and 15B), issue application abandonment. ong this box will be taken |

| Electronic Patent Application Fee Transmittal | | | | | | | |
|---|---|---------------------|------------------|--------|-------------------------|--|--|
| Application Number: | 15 | 283544 | | | | | |
| Filing Date: | 03- | 03-Oct-2016 | | | | | |
| Title of Invention: | ention: STREAMING MEDIA DELIVERY SYSTEM | | | | | | |
| First Named Inventor/Applicant Name: | На | rold Edward Price | | | | | |
| Filer: | Eril | k Alexander Huestis | /Juliette Ferrig | ino | | | |
| Attorney Docket Number: | 00: | 21-49 CON4B | | | | | |
| Filed as Small Entity | | | | | | | |
| Filing Fees for Utility under 35 USC 111(a) | | | | | | | |
| Description | | Fee Code | Quantity | Amount | Sub-Total in USD(\$) | | |
| Basic Filing: | | | | | | | |
| Pages: | | | | | | | |
| Claims: | | | | | | | |
| Miscellaneous-Filing: | | | | | | | |
| Petition: | | | | | | | |
| Patent-Appeals-and-Interference: | | | | | | | |
| Post-Allowance-and-Post-Issuance: | | | | | | | |
| UTILITY APPL ISSUE FEE | | 2501 | 1 | 480 | 480 | | |
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| Description | Fee Code | Quantity | Amount | Sub-Total in USD(\$) |
|--------------------|----------|-----------|--------|-------------------------|
| Extension-of-Time: | | | | |
| Miscellaneous: | | | | |
| | Tot | al in USD | (\$) | 480 |
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| Electronic Acknowledgement Receipt | | | |
|--------------------------------------|--|--|--|
| EFS ID: | 29673211 | | |
| Application Number: | 15283544 | | |
| International Application Number: | | | |
| Confirmation Number: | 5655 | | |
| Title of Invention: | STREAMING MEDIA DELIVERY SYSTEM | | |
| First Named Inventor/Applicant Name: | Harold Edward Price | | |
| Customer Number: | 25901 | | |
| Filer: | Erik Alexander Huestis/Juliette Ferrigno | | |
| Filer Authorized By: | Erik Alexander Huestis | | |
| Attorney Docket Number: | 0021-49 CON4B | | |
| Receipt Date: | 30-JUN-2017 | | |
| Filing Date: | 03-OCT-2016 | | |
| Time Stamp: | 19:17:09 | | |
| Application Type: | Utility under 35 USC 111(a) | | |

Payment information:

| Submitted with Payment | yes |
|--|-----------------------------|
| Payment Type | DA |
| Payment was successfully received in RAM | \$480 |
| RAM confirmation Number | 070317INTEFSW00007110061448 |
| Deposit Account | 061448 |
| Authorized User | Juliette Ferrigno |

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

37 CFR 1.16 (National application filing, search, and examination fees)

37 CFR 1.17 (Patent application and reexamination processing fees)

37 CFR 1.19 (Document supply fees)37 CFR 1.20 (Post Issuance fees)37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|--------------------|-----------------------------|-----------------------------|--|---------------------|---------------------|
| | | | 79446 | | |
| 1 | Issue Fee Payment (PTO-85B) | 15283544_Issue_Fee.pdf | ed620d7ec474b1a98d87fe54d676014a895 d0f9c | no | 1 |
| Warnings: | | | | · | |
| Information: | | | | | |
| | | | 30821 | | |
| 2 | Fee Worksheet (SB06) | fee-info.pdf | 6195315a939f4e4d97469e92a065e22d8a4 7a1f8 | no | 2 |
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| Information: | | | | | |
| | | Total Files Size (in bytes) | . 11 | 0267 | |

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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.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail

Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450 Alexandria, Virginia 22313-1450 or <u>Fax</u> (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 meintrepress fee rediffications. maintenance fee notifications.

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

25901 7590 06/20/2017 ERNEST D. BUFF ERNEST D. BUFF AND ASSOCIATES, LLC. 231 SOMERVILLE ROAD BEDMINSTER, NJ 07921

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Certificate of vialling or Transmission

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| (Depositor's name) | Ernest D. Buff |
|--------------------|------------------|
| (Signature) | /Ernest D. Buff/ |
| (Date) | June 30, 2017 |

| | | | | Julie 30 | 0, 2017 | | (Date) | |
|---|---|--|--|---|------------------------------------|------------------------------------|---|--|
| | | | | | | | | |
| APPLICATION NO. | FILING DATE | | FIRST NAMED INVENTOR | | ATTORNEY D | OCKET NO. | CONFIRMATION NO. | |
| 15/283,544 | 10/03/2016 | | Harold Edward Price | | 0021-49 | CON4B | 5655 | |
| TITLE OF INVENTION | : STREAMING MEDIA | DELIVERY SYSTEM | | | | | | |
| APPLN. TYPE | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE | FEE TOTA | L FEE(S) DUE | DATE DUE | |
| nonprovisional | SMALL | \$480 | \$0 | \$0 | | \$480 | 09/20/2017 | |
| | | | | | | | | |
| EXAM | IINER | ART UNIT | CLASS-SUBCLASS | | | | | |
| MCLEOD, M | ARSHALL M | 2454 | 709-219000 | | | | | |
| 1. Change of corresponde CFR 1.363). | ence address or indicatio | n of "Fee Address" (37 | 2. For printing on the p | | | 1 Ernest D | Buff | |
| _ ′ | ondence address (or Cha B/122) attached. | nge of Correspondence | (1) The names of up to or agents OR, alternation | vely, | attorneys | | Buff & Associates, LLC | |
| | ication (or "Fee Address 22 or more recent) attach | | (2) The name of a sing registered attorney or a 2 registered patent atto listed, no name will be | le firm (having as a a gent) and the name | member a s of up to | | est D. Dull & Associates, E | |
| PTO/SB/47; Rev 03-0 Number is required. | 02 or more recent) attach | ed. Use of a Customer | listed, no name will be | rneys or agents. If n printed. | o name 1s | 3 | | |
| | | | THE PATENT (print or type | . / | | | | |
| PLEASE NOTE: Unl recordation as set fort | less an assignee is ident h in 37 CFR 3.11. Com | ified below, no assignee pletion of this form is NO | data will appear on the p T a substitute for filing an | atent. If an assigne assignment. | e is identified | l below, the do | ocument has been filed for | |
| (A) NAME OF ASSIGNEE | | | (B) RESIDENCE: (CITY and STATE OR COUNTRY) | | | | | |
| WAG ACQUISITION, L.L.C. FLANDERS, NEW JERSEY | | | | | | | | |
| Please check the appropr | iate assignee category or | categories (will not be p | rinted on the patent): \Box | Individual 🛚 Con | rporation or ot | her private gro | oup entity 🗖 Government | |
| 4a. The following fee(s) | are submitted: | 4 | b. Payment of Fee(s): (Ple a | se first reapply any | y previously p | paid issue fee s | shown above) | |
| Issue Fee | T 11 P | | ☐ A check is enclosed.☐ Payment by credit car | LE PEG 2020 | | | | |
| Advance Order - # | No small entity discount f of Copies | permitted) | The director is hereby overpayment, to Depo | | | fee(s), any def | iciency, or credits any | |
| | | | overpayment, to Depo | sit Account Number | r <u>061448</u> | (enclose ar | n extra copy of this form). | |
| 5. Change in Entity Sta | , | | | | | | | |
| Applicant certifying | ng micro entity status. Se | ee 37 CFR 1.29 | NOTE: Absent a valid ce fee payment in the micro | rtification of Micro entity amount will r | Entity Status (not be accepted | (see forms PTC d at the risk of | D/SB/15A and 15B), issue application abandonment. | |
| Applicant asserting | g 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 enemtity status, as applicable. | | | | | of loss of entit | tlement to small or micro | | |
| NOTE: This form must b | oe signed in accordance v | with 37 CFR 1.31 and 1.3 | 3. See 37 CFR 1.4 for sign | | nd certificatio | ns. | | |
| Authorized Signature | /Ernest D. E | uff/ | | DateJur | ne 30, 201 | 7 | | |
| Typed or printed nam | e Ernest D. Buff | | | Registration No | o. <u>25,833</u> | | | |
| | | | Page 2 of 3 | | | | | |
| | | | C | | | | | |

PTOL-85 Part B (10-13) Approved for use through 10/31/2013.

OMB 0651-0033

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

| Electronic Patent Application Fee Transmittal | | | | | | |
|---|---------------------------------|-------------|----------|--------|-------------------------|--|
| Application Number: | 152 | 283544 | | | | |
| Filing Date: | 03- | -Oct-2016 | | | | |
| Title of Invention: | STREAMING MEDIA DELIVERY SYSTEM | | | | | |
| First Named Inventor/Applicant Name: | Harold Edward Price | | | | | |
| Filer: | ERNEST D BUFF/Ernest Buff | | | | | |
| Attorney Docket Number: | 002 | 21-49 CON4B | | | | |
| Filed as Small Entity | | | | | | |
| Filing Fees for Utility under 35 USC 111(a) | | | | | | |
| Description | | Fee Code | Quantity | Amount | Sub-Total in USD(\$) | |
| Basic Filing: | | | | | | |
| Pages: | | | | | | |
| Claims: | | | | | | |
| Miscellaneous-Filing: | | | | | | |
| Petition: | | | | | | |
| Patent-Appeals-and-Interference: | | | | | | |
| Post-Allowance-and-Post-Issuance: | | | | | | |
| UTILITY APPL ISSUE FEE | | 2501 | 1 | 480 | 480 | |

| Description | Fee Code | Quantity | Amount | Sub-Total in USD(\$) |
|--------------------|----------|-----------|--------|-------------------------|
| Extension-of-Time: | | | | |
| Miscellaneous: | | | | |
| | Tot | al in USD | (\$) | 480 |
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| Electronic Acl | Electronic Acknowledgement Receipt | | | | |
|--------------------------------------|------------------------------------|--|--|--|--|
| EFS ID: | 29667049 | | | | |
| Application Number: | 15283544 | | | | |
| International Application Number: | | | | | |
| Confirmation Number: | 5655 | | | | |
| Title of Invention: | STREAMING MEDIA DELIVERY SYSTEM | | | | |
| First Named Inventor/Applicant Name: | Harold Edward Price | | | | |
| Customer Number: | 25901 | | | | |
| Filer: | ERNEST D BUFF/Ernest Buff | | | | |
| Filer Authorized By: | ERNEST D BUFF | | | | |
| Attorney Docket Number: | 0021-49 CON4B | | | | |
| Receipt Date: | 30-JUN-2017 | | | | |
| Filing Date: | 03-OCT-2016 | | | | |
| Time Stamp: | 14:52:48 | | | | |
| Application Type: | Utility under 35 USC 111(a) | | | | |

Payment information:

| Submitted with Payment no | | | | | |
|---------------------------|-----------------------------|---|--|---------------------|---------------------|
| File Listing | j : | | | | |
| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
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| 1 | Issue Fee Payment (PTO-85B) | 15-283544-0021-49CON4B- IssueFee.pdf | 061afSa0dfbb223c1dd87f0c35b6cacd1725 a0ec | no | 1 |
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| 2 | Fee Worksheet (SB06) | fee-info.pdf | 9437ca097fa68c8602ba9bd17c4dc7a258d e85f7 | no | 2 |
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| Information: | | | | | |
| | | Total Files Size (in bytes) | 18 | 89375 | |

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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.

PART B - FEE(S) TRANSMITTAL

OPAR Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE Commissioner for Patents P.O. Box 1450

JUN 3 0 2017

Alexandria, Virginia 22313-1450 or <u>Fax</u> (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 the properties of 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)

25901 06/20/2017 ERNEST D. BUFF ERNEST D. BUFF AND ASSOCIATES, LLC. 231 SOMERVILLE ROAD BEDMINSTER, NJ 07921

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.

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 facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

| Ernest D. Buff | (Depositor's name) |
|-----------------|--------------------|
| /Emest D. Buff/ | (Signature) |
| June 30, 2017 | (Date) |

| APPLICATION NO. | FILING DATE | | FIRST NAMED INVENTOR | | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|---|----------------------------|--|--|--|----------------------------------|
| 15/283,544 10/03/2016 | | Harold Edward Price | | 0021-49 CON4B | 5655 | |
| TITLE OF INVENTION | : STREAMING MEDIA | DELIVERY SYSTEM | | | | |
| APPLN. TYPE | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE I | TEE TOTAL FEE(S) DUE | DATE DUE |
| nonprovisional | \$MALL. | \$480 | \$0 | \$0 | \$480 | 09/20/2017 |
| EXAM | INER | ART UNIT | CLASS-SUBCLASS | 1 | | |
| MCLEOD, M. | ARSHALL M | 2454 | 709-219000 | • | | |
| | ondence address (or Cha 3/122) attached. ication (or "Fee Address' 12 or more recent) attach | nge of Correspondence | 2. For printing on the p (1) The names of up to or agents OR, alternativ (2) The name of a single registered attorney or a 2 registered patent attolisted, no name will be | o 3 registered patent a wely, le firm (having as a m agent) and the names rneys or agents. If no | ember a 2 Ernest D. | D. Buff Buff & Associates, LL |
| (A) NAME OF ASSIG | | | data will appear on the profit a substitute for filing and (B) RESIDENCE: (CITY FLANDERS, N | and STATE OR CO | | ocument has been filed for |
| Please check the appropri | iate assignee category or | categories (will not be pr | rinted on the patent): | Individual 🛭 Corp | oration or other private gro | up entity Government |
| | are submitted: To small entity discount properties | ermitted) | A check is enclosed. Payment by credit car | d. Form PTO-2038 is | the required fee(s), any def | |
| 5. Change in Entity Stat Applicant certifying | tus (from status indicated | • | NOTE: Absent a valid ce | rtification of Micro E | ntity Status (see forms PTC | D/SB/15A and 15B), issue |
| Applicant asserting | g small entity status. See | 37 CFR 1.27 | | • | ot be accepted at the risk of r micro entity status, checki cro entity status. | •• |
| Applicant changing | g to regular undiscounted | I fee status. | | will be taken to be a | notification of loss of enti | |
| NOTE: This form must b | e signed in accordance v | rith 37 CFR 1.31 and 1.3 | 3. See 37 CFR 1.4 for signa | | d certifications. | |
| Authorized Signature | /Ernest D. B | uff/ | | Date June | e 30, 2017 | |
| Typed or printed name | | | | 07/03/201 Registration No. | | 15283544 |
| | | | D 0 60 | 81-FC:250 | 1 489.88 DA | |
| PTOL-85 Part B (10-13) | Approved for use through | h 10/31/2013. | Page 2 of 3 OMB 0651-0033 | J.S. Patent and Trade | mark Office; U.S. DEPART | TMENT OF COMMERCE |

Exhibit 1004

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4477783

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|---------------------|----------------|
| HAROLD EDWARD PRICE | 06/26/2017 |

RECEIVING PARTY DATA

| Name: | WAG ACQUISITION, L.L.C. | |
|----------------------------------|-------------------------|--|
| Street Address: 3 GOLD MINE ROAD | | |
| City: | FLANDERS | |
| State/Country: | NEW JERSEY | |
| Postal Code: | 07836 | |

PROPERTY NUMBERS Total: 3

| Property Type | Number | | |
|---------------------|----------|--|--|
| Application Number: | 15283544 | | |
| Application Number: | 15283578 | | |
| Application Number: | 15283581 | | |

CORRESPONDENCE DATA

Fax Number: (908)901-0330

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 908-901-0220
Email: ebuff@edbuff.com
Correspondent Name: ERNEST D. BUFF, ESQ.
Address Line 1: 231 SOMERVILLE ROAD

Address Line 4: BEDMINSTER, NEW JERSEY 07921

| ATTORNEY DOCKET NUMBER: | 0021-49CON4B-5B-6B |
|-------------------------|--|
| NAME OF SUBMITTER: | ERNEST D. BUFF |
| SIGNATURE: | /Ernest D. Buff/ |
| DATE SIGNED: | 06/26/2017 |
| | This document serves as an Oath/Declaration (37 CFR 1.63). |

Total Attachments: 3

source=0021-49-CON4B-5B-6B-Assignment#page1.tif source=0021-49-CON4B-5B-6B-Assignment#page2.tif source=0021-49-CON4B-5B-6B-Assignment#page3.tif

ASSIGNMENT

WHEREAS, Harold Edward Price of Bethel Park, County of Allegheny, State of Pennsylvania, U.S.A. an individual ("Assignor") is the sole and exclusive owner/inventor/applicant of United States patent applications for patent properties listed in Schedule A attached hereto and made a part hereof, and

WHEREAS, WAG ACQUISITION, L.L.C., a limited liability company of New Jersey, U.S.A. ("Assignee"), located and doing business at 3 Goldmine Road, Flanders, New Jersey 07836, is desirous of acquiring the right, title and interest in, to and under said pending United States patent applications:

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN, be it known that for and in consideration of the sum of One Dollar (\$1.00) to it in hand paid by said WAG ACQUISITION, L.L.C, and other good and valuable consideration, the receipt of which is hereby acknowledged, Harold Edward Price has sold, assigned, transferred and set over, and does hereby sell, assign, transfer and set over to said WAG ACQUISITION, L.L.C, the pending United States patent applications aforesaid, the same to be held and enjoyed by said WAG ACQUISITION, L.L.C, for its own use and enjoyment, and for the use and enjoyment of its successors, assigns or any other legal representatives, to the end of the term or terms for said pending United States patent applications, any continuations or divisionals thereof, and any patents, reissued patents or reexamined patents evolving therefrom, as fully and entirely as the same would have been held and enjoyed by said Harold Edward Price if this assignment and sale had not been made.

Harold Edward Price agrees to execute any further lawful papers necessary to secure WAG ACQUISITION, L.L.C, of its full and complete enjoyment of its use of the aforementioned pending patent applications.

Harold Edward Price represents that he has full right to convey the interest herein assigned and that he has not executed and will not execute any agreements in conflict herewith.

IN TESTIMONY WHEREOF, Harold Edward Price has caused these presents to be signed by setting hereunto his hand on the date herebelow.

By:

Harold Edward Price

Title: Owner/Inventor/Applicant

Yates (

SCHEDULE A

Patent Applications

| Scrial No. | Filed | Title | Docket No. |
|------------|-----------|---------------------------------|-----------------|
| 15/283,544 | 10/3/2016 | STREAMING MEDIA DELIVERY SYSTEM | 0021-49 CON 48 |
| 15/283,578 | 10/3/2016 | STREAMING MEDIA DELIVERY SYSTEM | 0021-49 CON 518 |
| 15/283,581 | 10/3/2016 | STREAMING MEDIA DELIVERY SYSTEM | 0021-49 CON68 |
| 15/283,581 | 10/3/2016 | STREAMING MEDIA DELIVERY SYSTEM | 0021 |

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

25901 7590 06/20/2017
ERNEST D. BUFF
ERNEST D. BUFF AND ASSOCIATES, LLC.
231 SOMERVILLE ROAD
BEDMINSTER, NJ 07921

EXAMINER

MCLEOD, MARSHALL M

ART UNIT PAPER NUMBER

2454

DATE MAILED: 06/20/2017

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 15/283 544 | 10/03/2016 | Harold Edward Price | 0021-40 CON4R | 5655 |

TITLE OF INVENTION: STREAMING MEDIA DELIVERY SYSTEM

| APPLN. TYPE | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
|----------------|---------------|---------------|---------------------|----------------------|------------------|------------|
| nonprovisional | SMALL | \$480 | \$0 | \$0 | \$480 | 09/20/2017 |

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: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

Page 1 of 3

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail

Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450 Alexandria, Virginia 22313-1450 or <u>Fax</u> (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.

25901 7590 06/20/2017 ERNEST D. BUFF ERNEST D. BUFF AND ASSOCIATES, LLC. 231 SOMERVILLE ROAD BEDMINSTER, NJ 07921

Certificate of Mailing or Transmission

Certificate of vialling 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 facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

| (Depositor's name) | |
|--------------------|--|
| (Signature) | |
| (Date) | |

| APPLICATION NO. | FILING DATE | | FIRST NAMED INVENTOR | | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|--|-------------------------------|---|--|--|---|
| 15/283,544 10/03/2016 TITLE OF INVENTION: STREAMING MEDIA DELIVERY SYSTEM | | | Harold Edward Price | | 0021-49 CON4B | 5655 |
| APPLN. TYPE | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSU | E FEE TOTAL FEE(S) DU | E DATE DUE |
| nonprovisional | SMALL | \$480 | \$0 | \$0 | \$480 | 09/20/2017 |
| EXAM | MINER | ART UNIT | CLASS-SUBCLASS | | | |
| MCLEOD, M | IARSHALL M | 2454 | 709-219000 | • | | |
| CFR 1.363). Change of correst Address form PTO/S "Fee Address" inc PTO/SB/47; Rev 03-Number is required | | Indication form | For printing on the p (1) The names of up to or agents OR, alternativ (2) The name of a singly registered attorney or a 2 registered patent attolisted, no name will be THE PATENT (print or type of the part of | 3 registered pater rely, e firm (having as a gent) and the nam rneys or agents. If printed. | at attorneys 1a member a 2ates of up to | |
| (A) NAME OF ASSI | IGNEE | | (B) RESIDENCE: (CITY | and STATE OR C | COUNTRY) | document has been filed for roup entity Government |
| | are submitted: No small entity discount p | permitted) | A check is enclosed. Payment by credit car The director is hereby | d. Form PTO-2038 authorized to char | ny previously paid issue fe 3 is attached. ge the required fee(s), any d er(enclose | eficiency, or credits any |
| ☐ Applicant certifyi ☐ Applicant asserting | atus (from status indicate ing micro entity status. See ing small entity status. See ing to regular undiscounte | ee 37 CFR 1.29 37 CFR 1.27 | NOTE: If the application to be a notification of loss | was previously un- s of entitlement to a will be taken to b | o Entity Status (see forms P'not be accepted at the risk of der micro entity status, checmicro entity status. The anotification of loss of entity status. | |
| NOTE: This form must | be signed in accordance v | with 37 CFR 1.31 and 1.3 | 3. See 37 CFR 1.4 for signa | | and certifications. | |
| Authorized Signature | · | | | Date | | |
| | ne | | | Registration N | No | |
| | | | Page 2 of 3 | | | |

PTOL-85 Part B (10-13) Approved for use through 10/31/2013.

OMB 0651-0033

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE



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

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|------------------|----------------------|---------------------|------------------|
| 15/283,544 | 10/03/2016 | Harold Edward Price | 0021-49 CON4B | 5655 |
| 25901 75 | 90 06/20/2017 | | EXAM | INER |
| ERNEST D. BUF | _ | MCLEOD, M. | ARSHALL M | |
| ERNEST D. BUFF | 'AND ASSOCIATES, | LLC. | | |
| 231 SOMERVILLI | E ROAD | | ART UNIT | PAPER NUMBER |
| BEDMINSTER, N | J 07921 | | 2454 | |

DATE MAILED: 06/20/2017

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 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, 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:

- 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.
- 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.

| | Application No. 15/283,544 | | Applicant(s) PRICE, HAROLD EDWARD | | | |
|--|-------------------------------------|-----------------------|--|--|--|--|
| Notice of Allowability | Examiner MARSHALL MCLEOD | Art Unit | AIA (First Inventor to File) Status | | | |
| | WATGITALL WIGHLOD | 2434 | No | | | |
| 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. | | | | | | |
| This communication is responsive to <u>03/29/2017</u>. A declaration(s)/affidavit(s) under 37 CFR 1.130(b) v | was/were filed on | | | | | |
| 2. An election was made by the applicant in response to a requirement and election have been incorporated into this | | ring the interview or | n; the restriction | | | |
| 3. The allowed claim(s) is/are <u>1-12</u> . 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 u Certified copies: | nder 35 U.S.C. § 119(a)-(d) or (f). | | | | | |

| 3. The allowed claim(s) is/are 1-12. 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 | 5 U.S.C. § 119(a)-(d) or (f). | | | | | | |
| Certified copies: | | | | | | | |
| a) ☐ All b) ☐ Some *c) ☐ None of the: | | | | | | | |
| Certified copies of the priority documents have be | en received. | | | | | | |
| Certified copies of the priority documents have be | en received in Application No | | | | | | |
| | ents 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 the noted below. Failure to timely comply will result in ABANDONMEN THIS THREE-MONTH PERIOD IS NOT EXTENDABLE. | | | | | | | |
| 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be | submitted. | | | | | | |
| including changes required by the attached Examiner's Ar Paper No./Mail Date | nendment / Comment or in the Office action of | | | | | | |
| ldentifying indicia such as the application number (see 37 CFR 1.84(each sheet. Replacement sheet(s) should be labeled as such in the h | | | | | | | |
| DEPOSIT OF and/or INFORMATION about the deposit of BIOL attached Examiner's comment regarding REQUIREMENT FOR TI | | | | | | | |
| Attachment(s) | | | | | | | |
| 1. Notice of References Cited (PTO-892) | 5. Examiner's Amendment/Comment | | | | | | |
| Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date <u>02/22/17, 4/6/2017, 04/11/2017, 04/11/20</u> 04/11/2017, 05/18/2017 | 6. 🛮 Examiner's Statement of Reasons for Allowance 017. | | | | | | |
| 3. Examiner's Comment Regarding Requirement for Deposit | 7. Other | | | | | | |
| of Biological Material 4. ☐ Interview Summary (PTO-413), | | | | | | | |
| Paper No./Mail Date | | | | | | | |
| | /Joseph E Avellino/ | | | | | | |
| | Supervisory Patent Examiner, Art Unit 2454 | | | | | | |
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Application/Control Number: 15/283,544 Page 2

Art Unit: 2454

DETAILED ACTION

Reasons for Allowance

1. The prior art solely and in combination does not disclose, with respect to claims 1, 5 and 9 that the one or more media data elements sent are selected without depending on the server system maintaining a record of the last media data element sent to the requesting user systems. Rather the prior art references cited by the examiner in the non-final office action and the references found during search, disclose that the client does not maintain a record/list of the last data element sent by the server.

Accordingly, **claims 1-12** are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARSHALL MCLEOD whose telephone number is (571)270-3808. The examiner can normally be reached on Monday - Thursday 6:30 a.m-4:00 p.m..

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, JOSEPH AVELLINO can be reached on (571) 272-3905. The fax phone

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Art Unit: 2454

number for the organization where this application or proceeding is assigned is 571-

273-8300.

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/M. M./

Examiner, Art Unit 2454

6/7/2017

/Joseph E Avellino/

Supervisory Patent Examiner, Art Unit 2454

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (03-15)
Approved for use through 07/31/2016. OMB 0651-0031
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| INFORMATION DISCLOSURE | Application Number | | 15283544 | |
|---|----------------------------|--|-------------------|--|
| | Filing Date | | 2016-10-03 | |
| | First Named Inventor Harol | | rold Edward Price | |
| STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99) | Art Unit | | 2454 | |
| (Not for submission under or of it 1.33) | Examiner Name MCI | | CLEOD, MARSHALL M | |
| | Attorney Docket Number | | 0021-49 CON4B | |

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| Art Unit | | 2454 | | |
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| | | EXAMINER SIG | NATURE | | | | | |
| Examiner | Signa | ature /MARSHALL M MCLEOD/ | Date Considered | 06/07/2017 | | | | |
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| Nar | ne/Print | Ernest D. Buff | Registration Number | 25,833 | | | | | |
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| | First Named Inventor Harold | | old Edward Price | |
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| (Not for Submission under 57 Of K 1.55) | Examiner Name Mars | | rshall M. McLeod | |
| | Attorney Docket Number | | 0021-49 CON4B | |

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| First Named Inventor Harole | | Edward Price | | |
| Art Unit | | 2454 | | |
| Examiner Name Marsh | | nall M. McLeod | | |
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| | | | | Application Number | 15/283,544 |
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| ST | ATEMENT | 3Y / | APPLICANT | First Named Inventor | Harold E. Price |
| | | | | Art Unit | 2454 |
| (Use as many sheets as necessary) | | | | Examiner Name | MCLEOD, MARSHALL M. |
| Sheet | 1 | of | 9 | Attorney Docket Number | 0021-49-CON4B |

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| | | | | Application Number | 15/283,544 | |
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| ST | ATEMENT E | 3Y / | APPLICANT | First Named Inventor | Harold E. Price | |
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| Substitute for form 1449/PTO | | | | Complete if Known | | |
|-----------------------------------|-----------|------|----------|--------------------------------------|---------------------|--|
| | | | | Application Number | 15/283,544 | |
| INF | FORMATION | I DI | SCLOSURE | Filing Date | October 3, 2016 | |
| STATEMENT BY APPLICANT | | | | First Named Inventor | Harold E. Price | |
| | | | | Art Unit | 2454 | |
| (Use as many sheets as necessary) | | | | Examiner Name | MCLEOD, MARSHALL M. | |
| Sheet | 8 | of | 9 | Attorney Docket Number 0021-49-CON4B | | |

| | Facsimile of | SB/08. |
|------|--|--------|
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| Examiner | | Date | |
|-----------|---------------------|------------|------------|
| Signature | /MARSHALL M MCLEOD/ | Considered | 06/07/2017 |

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

| Substitute for form 1449/PTO | | | | Complete if Known | | |
|-----------------------------------|-----------|------|-----------|--------------------------------------|---------------------|--|
| | | | | Application Number | 15/283,544 | |
| INF | FORMATION | 1 DI | SCLOSURE | Filing Date | October 3, 2016 | |
| ST | ATEMENT E | 3Y / | APPLICANT | First Named Inventor | Harold E. Price | |
| | | | | Art Unit | 2454 | |
| (Use as many sheets as necessary) | | | | Examiner Name | MCLEOD, MARSHALL M. | |
| Sheet | 9 | of | 9 | Attorney Docket Number 0021-49-CON4B | | |

| CERTIFICATION STATEMENT | | | | | | | |
|---|---|--------------------------|------------|--|--|--|--|
| Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s): | | | | | | | |
| That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1). | | | | | | | |
| OR | OR | | | | | | |
| That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2). | | | | | | | |
| See attached certification statement. | | | | | | | |
| X The fee set forth | in 37 CFR 1.17 (p) has been submitted herewith. | | | | | | |
| X A certification statement is not submitted herewith. | | | | | | | |
| SIGNATURE A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature. | | | | | | | |
| Signature | /Ernest D. Buff/ | Date (YYYY-MM- DD) | 2016-11-20 | | | | |
| Name/Print | lame/Print Ernest D. Buff Registration No. 25,833 | | | | | | |
| This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by | | | | | | | |

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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.**

EAST Search History

EAST Search History (Prior Art)

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|----------|------|---|--|---------------------|---------|---------------------|
| L1 | 32 | stream\$3 near media and playback and encode and rate and buffer and serial near (number identif\$5 tag) with (data element media audio video file) and client with (monitor\$3 control\$3 playlist list) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/06/07 09:20 |
| L2 | 0 | stream\$3 near media and playback and encode and rate and buffer and serial near (number identif\$5 tag) with (data element media audio video file) and client with (monitor\$3 control\$3 playlist list) with last near (media content) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/06/07 09:21 |
| L3 | 6 | "709".clas. and stream\$3 near media and playback and encode and rate and buffer and serial near (number identif\$5 tag) with (data element media audio video file) and client with (monitor\$3 control\$3 playlist list) | USPAT; USOCR; FPRS; | OR | ON | 2017/06/07 09:21 |
| L4 | 0 | 709/203.ccls. and stream\$3 near media and playback and encode and rate and buffer and serial near (number identif\$5 tag) with (data element media audio video file) and client with (monitor\$3 control\$3 playlist list) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/06/07 09:24 |
| L6 | 0 | 709/204.ccls. and stream\$3 near media and playback and encode and rate and buffer and serial near (number identif\$5 tag) with (data element media audio video file) and client with (monitor\$3 control\$3 playlist list) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/06/07 09:24 |
| L8 | 3 | 709/217.ccls. and stream\$3 near media and playback and encode and rate and buffer and serial near (number identif\$5 tag) with (data element media audio video file) and client with (monitor\$3 control\$3 playlist list) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/06/07 09:24 |
| L10 | O | 709/219.ccls. and stream\$3 near media and playback and encode and rate and buffer and serial near (number identif\$5 tag) with (data element media audio video file) and client with (monitor\$3 control\$3 playlist list) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/06/07 09:24 |
| L12 | 1 | 709/223.ccls. and stream\$3 near media | US-PGPUB; | OR | ON | 2017/06/07 |

| | | and playback and encode and rate and buffer and serial near (number identif\$5 tag) with (data element media audio video file) and client with (monitor\$3 control\$3 playlist list) | USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | 09:25 |
|-----|-------|--|--|----|-----|---------------------|
| L14 | 1 | 709/223.ccls. and stream\$3 near media and playback and encode and rate and buffer and serial near (number identif\$5 tag) with (data element media audio video file) and client with (monitor\$3 control\$3 playlist list) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/06/07 09:28 |
| L15 | 5 | 1 AND ((H04N21/2407 OR H04N21/23805 OR H04L65/4076 OR H04L65/80).CPC.) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/06/07 09:32 |
| L18 | 21373 | "1" AND ((H04N21/23406 OR H04N21/23805 OR H04L65/4076 OR H04L65/80).CPC.) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/06/07 09:33 |
| L19 | 38 | stream\$3 near media and playback and encode and rate and buffer and serial near (number identif\$5 tag) with (data element media audio video file) and time adj sequence | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/06/07 09:34 |
| L20 | 4 | 1 AND ((H04N21/2407 OR H04N21/23805 OR H04L49/90 OR H04L49/901 OR H04L49/9084 OR H04L65/80).CPC.) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/06/07 09:35 |
| S1 | 21 | "709".clas. and stream\$3 near media and underflow and playback and encode and rate and buffer | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:30 |
| S2 | 2 | ("7237254").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2011/07/25 06:30 |
| S3 | 12 | playback with rate with slower with buffer with stream\$3 with media | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; | OR | ON | 2011/07/25 06:31 |

| | |] | IBM_TDB | | | |
|------------|-----|--|--|----|----|---------------------|
| S 4 | 13 | playback and rate with slower with buffer with stream\$3 with media | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:31 |
| S5 | 332 | playback and rate and slower and buffer and stream\$3 near media and encode | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:32 |
| S6 | 294 | playback and rate and slower and buffer and stream\$3 near media and encode and bit | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:32 |
| S7 | 481 | playback and rate and slower and buffer and stream\$3 near media and encod\$3 and bit | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:32 |
| S8 | 239 | playback and rate and slower and buffer and stream\$3 near media and encod\$3 and bit and pointer | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM TDB | OR | ON | 2011/07/25 06:32 |
| S9 | 184 | playback and rate and slower and buffer and stream\$3 near media and encod\$3 and bit and pointer and player | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:33 |
| S10 | 182 | playback and rate and slower and buffer and stream\$3 near media and encod\$3 and bit and pointer and player and audio and video | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:33 |
| S11 | 182 | playback and rate and slower and buffer and stream\$3 near media and encod\$3 and bit and pointer and player and audio and video and user | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:33 |
| S12 | 107 | playback and rate and slower and buffer and stream\$3 near media and encod\$3 and bit and pointer and player and audio and video and user and tcp | US-PGPUB; USPAT; USOCR; FPRS; | OR | ON | 2011/07/25 06:33 |

| | | | EPO; JPO; DERWENT; IBM_TDB | | | |
|-----|-----|---|--|----|-----|---------------------|
| S13 | 106 | playback and rate and slower and buffer and stream\$3 near media and encod\$3 and bit and pointer and player and audio and video and user and tcp and digital | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:33 |
| S14 | 0 | playback and rate and slower and buffer and stream\$3 near media and encod\$3 and bit and pointer and player and audio and video and user and tcp and digital and liver | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:33 |
| S15 | 98 | playback and rate and slower and buffer and stream\$3 near media and encod\$3 and bit and pointer and player and audio and video and user and tcp and digital and live | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:33 |
| S16 | 98 | playback and rate and slower and buffer and stream\$3 near media and encod\$3 and bit and pointer and player and audio and video and user and tcp and digital and live and file | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:33 |
| S17 | 2 | ("6766376"). <i>P</i> N. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM TDB | OR | OFF | 2011/07/25 06:34 |
| S18 | 2 | ("5928330").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2011/07/25 06:34 |
| S19 | 0 | streamS3 near media with buffer with download | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:35 |
| S20 | 0 | streamS3 near media with download with (data elements media) with [aster and playback | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:35 |
| S21 | 0 | streamS3 near media with download with (data elements media) with faster | US-PGPUB; USPAT; | OR | ON | 2011/07/25 06:35 |

| | | and playback | USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | |
|------|-----|---|--|----|-----|---------------------|
| S22 | 0 | streamS3 near media with underflow and playback | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:36 |
| S23 | 179 | stream\$3 near media and underflow and playback and encode and rate and buffer | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:37 |
| S24 | 29 | stream\$3 near media and underflow and playback and encode and rate and buffer and download | | OR | ON | 2011/07/25 06:37 |
| S25 | 8 | stream\$3 near media and underflow and playback and encode and rate and buffer and download and faster and slower | | OR | ON | 2011/07/25 06:38 |
| S26 | 2 | ("6637031").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2011/07/25 06:38 |
| S27 | 2 | ("6728753").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2011/07/25 06:38 |
| \$28 | 6 | stream\$3 near media near player and playback with sequential near order | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:39 |
| S29 | 44 | stream\$3 near media near player and sequential near order | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:39 |

| | 31 | 3 | Sr | | | |
|-----|----|---|--|----|----|---------------------|
| S30 | 42 | stream\$3 near media near player and sequential near order and identif\$5 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | ON | 2011/07/25 06:40 |
| S31 | 42 | stream\$3 near media near player and sequential near order and identif\$5 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:40 |
| S32 | 1 | stream\$3 near media near player and sequential near identif\$5 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:40 |
| S33 | 13 | stream\$3 near media near player and assign near identif\$5 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:40 |
| S34 | 12 | stream\$3 near media near player and assign near identif\$5 and client | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:41 |
| S35 | 3 | stream\$3 near media near player and assign near identif\$5 and client and playlist | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:41 |
| S36 | 65 | stream\$3 near media near player and assign and (identif\$5 label assign tag)and dient and playlist and media | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:42 |
| S37 | 0 | "200100047377" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:42 |
| S38 | 2 | "20010047377" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; | OR | ON | 2011/07/25 06:42 |

| | | | DERWENT; IBM_TDB | | | |
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| S39 | 2 | "20100235536" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:43 |
| S40 | 0 | stream\$3 near media near player and sequential near order and serial near identif\$5 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:44 |
| S41 | 0 | stream\$3 near media near player and sequential near order and serial near identif\$5 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:44 |
| S42 | 5 | stream\$3 near media near player and sequential near order and serial with identif\$5 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:44 |
| S45 | 2 | 709/230.ccls. and stream\$3 near media near player and sequential near order and identif\$5 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:47 |
| S46 | 8 | 709/231.ccls. and stream\$3 near media near player and sequential near order and identif\$5 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:47 |
| S47 | 1 | "12800152".rlan. or ("12".src. and "800152".ap.) | US-PGPUB; USPAT; USOCR; DERWENT | OR | ON | 2011/07/25 06:55 |
| S49 | 10 | "709".clas. and stream\$3 near media and playback and encode and rate and buffer and serial near (number identif\$5 tag) with (data element media audio video file) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:59 |
| S50 | 0 | 709/230.ccls. and stream\$3 near media and playback and encode and rate and buffer and serial near (number identif\$5 tag) with (data element media audio video file) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; | | ON | 2011/07/25 06:59 |

| <u> </u> | .] | | IBM_TDB | | | |
|----------|----|---|--|----|----|---------------------|
| S51 | 2 | 709/231.ccls. and stream\$3 near media and playback and encode and rate and buffer and serial near (number identif\$5 tag) with (data element media audio video file) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:59 |
| S52 | 2 | 709/217.ccls. and stream\$3 near media and playback and encode and rate and buffer and serial near (number identif\$5 tag) with (data element media audio video file) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 07:29 |
| S53 | 0 | 709/218.ccls. and stream\$3 near media and playback and encode and rate and buffer and serial near (number identif\$5 tag) with (data element media audio video file) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 07:29 |
| S54 | 0 | 709/219.ccls. and stream\$3 near media and playback and encode and rate and buffer and serial near (number identif\$5 tag) with (data element media audio video file) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 07:29 |
| S68 | 29 | ("6292834" "6588015" "6594699" "6598228" "6665751" "6708213" "6829368" "6889257" "6907481" "7054500" "7111058" "7170856" "7346698" "7373413").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 21:49 |
| S69 | 14 | playback and rate with slower with buffer with stream\$3 near media and size | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:04 |
| S70 | 13 | playback and rate with slower with buffer with stream\$3 near media and size and speed | A | OR | ON | 2011/11/30 22:04 |
| S71 | 22 | playback and rate and slow\$3 with buffer with stream\$3 near media and size and speed and fast\$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:05 |
| S72 | 16 | playback and bit near rate and slow\$3 with buffer with stream\$3 near media and size and speed and fast\$3 | US-PGPUB; USPAT; USOCR; FPRS; | OR | ON | 2011/11/30 22:05 |

| | | | EPO; JPO; DERWENT; IBM_TDB | | | |
|-----|----|---|--|----|----|---------------------|
| S73 | 16 | playback and bit near rate and slow\$3 with buffer with stream\$3 near media and size and speed and fast\$3 and video | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:05 |
| S74 | 16 | playback and bit near rate and slow\$3 with buffer with stream\$3 near media and size and speed and fast\$3 and video and variab\$5 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:06 |
| S75 | 14 | playback and bit near rate and slow\$3 with buffer with stream\$3 near media and size and speed and fast\$3 and video and variab\$5 and smooth\$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:06 |
| S77 | 0 | 709/217.ccls. and playback and bit near rate and slow\$3 with buffer with stream\$3 near media and size and speed and fast\$3 and video and variab\$5 and smooth\$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:07 |
| S78 | O | 709/217.ccls. and playback and rate and slow\$3 with buffer with stream\$3 near media and size and speed and fast\$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:08 |
| S79 | 1 | 709/217.ccls. and playback and rate with slower with buffer with stream\$3 near media and size | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:08 |
| S80 | O | 709/218.ccls. and playback and rate with slower with buffer with stream\$3 near media and size | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:08 |
| S81 | 0 | 709/219.ccls. and playback and rate with slower with buffer with stream\$3 near media and size | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:08 |
| S82 | 0 | 709/218.ccls. and playback and bit near rate and slow\$3 with buffer with | US-PGPUB; USPAT; | OR | ON | 2011/11/30 22:08 |

| | | stream\$3 near media and size and speed and fast\$3 and video and variab\$5 and smooth\$3 | USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | |
|-----|---|---|--|----|----|---------------------|
| S83 | 0 | 709/219.ccls. and playback and bit near rate and slow\$3 with buffer with stream\$3 near media and size and speed and fast\$3 and video and variab\$5 and smooth\$3 | USPAT; | OR | ON | 2011/11/30 22:09 |
| S84 | 0 | 709/230.ccls. and playback and rate with slower with buffer with stream\$3 near media and size | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:11 |
| S85 | 3 | 709/231.ccls. and playback and rate with slower with buffer with stream\$3 near media and size | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:11 |
| S86 | 0 | 709/230.ccls. and playback and bit near rate and slow\$3 with buffer with stream\$3 near media and size and speed and fast\$3 and video and variab\$5 and smooth\$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:12 |
| S87 | 4 | 709/231.ccls. and playback and bit near rate and slow\$3 with buffer with stream\$3 near media and size and speed and fast\$3 and video and variab\$5 and smooth\$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:12 |
| S88 | 7 | 709/219.ccls. and playback and bit near rate and buffer with stream\$3 near media and size and speed and video and variab\$5 and smooth\$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:13 |
| S89 | 2 | 709/217.ccls. and playback and bit near rate and buffer with stream\$3 near media and size and speed and video and variab\$5 and smooth\$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:13 |
| S90 | 0 | 709/218.ccls. and playback and bit near rate and buffer with stream\$3 near media and size and speed and video and variab\$5 and smooth\$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:13 |

| S105 5 | "5262875" "5440334" "5481543" "5710970" "5719786" "5734119" "5737536" "5809239" "5815662" "5910876" "5963202" "5978567" "5995705" "6047356" "6173340" "6233226" "6279040" "6321269" "6405256" "6449719" "6831892" "6850965" "7272298" "7334044").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | ON | 2012/02/13 06:39 |
|--------|--|--|----|----|---------------------|
| S107 3 | | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | O | 2012/08/09 06:56 |

| | | "5815662" "6728753" "7346698" "20030014488" "20030093790" "20040260835" "20050080876" "20060153537" "20070233784" "20070274672" "5835495" "6173328" "6389473" "6990497" "7647297").PN. | | | | |
|------|-----|---|--|----|-----|---------------------|
| S108 | 1 | "13385375".rlan. or ("13".src. and "385375".ap.) | US-PGPUB; USPAT; USOCR; DERWENT | OR | OFF | 2012/08/09 06:57 |
| S109 | 2 | ("5892915"). PN . | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2012/08/27 07:10 |
| S110 | 1 | server near buffer and sequential and media and playback near rate and (fill\$3 load\$3) near buffer and (view\$3 listen\$3 watch\$3 play\$3) and stream\$3 and detect\$4 with interrupti\$3 and pointer and variable near bit adj rate | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2012/08/27 07:22 |
| S111 | 2 | ("5606359").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2012/08/27 07:24 |
| S112 | 2 | ("5877812").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2012/08/27 07:33 |
| S113 | 2 | ("6801964").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2012/08/29 11:01 |
| S114 | 275 | ((HAROLD) near2 (PRICE)).INV. | US-PGPUB; USPAT; USOCR | OR | OFF | 2012/09/05 11:49 |
| S115 | 52 | ((HAROLD) near2 (PRICE)).INV. and stream\$3 and media | US-PGPUB; USPAT; USOCR | OR | OFF | 2012/09/05 11:51 |
| S116 | 31 | ((HAROLD) near2 (PRICE)).INV. and stream\$3 and media and buffer | US-PGPUB; USPAT; USOCR | OR | OFF | 2012/09/05 11:56 |
| S117 | 3 | ("6385673").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; | OR | OFF | 2015/07/09 13:24 |

| | | | DERWENT; IBM_TDB | | | |
|------|----|---|--|----|-----|---------------------|
| S118 | 3 | ("20020052967").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/07/09 13:25 |
| S119 | 3 | ("20070005795").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/07/09 13:25 |
| S120 | 56 | stream\$3 adj (media data) and buffer and playlist and playback adj rate and speed and (realtime live) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2015/07/10 22:36 |
| S121 | 0 | "709." "clas." and stream\$3 adj (media data) and buffer and playlist and playback adj rate and speed and (realtime live) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2015/07/10 22:36 |
| S122 | 34 | "709".clas. and stream\$3 adj (media data) and buffer and playlist and playback adj rate and speed and (realtime live) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2015/07/10 22:36 |
| S123 | 34 | S122 AND ((H04N21/8456 OR H04N21/6587 OR H04N21/2387 OR H04N21/23439 OR H04N21/2387 OR H04N21/44004 OR H04N21/43615 OR H04N21/44016 OR H04N21/4825 OR H04N21/8543 OR H04N21/23103 OR H04N21/2343 OR H04N21/23103 OR H04N21/2343 OR H04N21/23405 OR H04N21/26258 OR H04N21/2747 OR H04N21/4305 OR H04N21/4307 OR H04N21/4392 OR H04N21/4394 OR H04N21/47202 OR H04N21/6125 OR H04N21/6373 OR H04N21/6437 OR H04N21/23116 OR H04N21/2312 OR H04N21/2312 OR H04N21/23116 OR H04N21/2323 OR H04N21/2323 OR H04N21/2323 OR H04N21/2326 OR H04N21/234363 OR H04N21/234345 OR H04N21/234345 OR H04N21/234345 OR H04N21/234363 OR H04N21/23437 OR H04N21/23437 OR H04N21/23437 OR H04N21/23436 OR H04N21/23436 OR H04N21/23437 OR H04N21/23437 OR H04N21/23436 OR H04N21/23437 OR H04N21/23437 OR H04N21/23437 OR H04N21/23436 OR H04N21/23437 OR H04N21/23436 OR H04N21/2402 OR H04N21/23496 OR H04N21/2402 OR H04N21/2404 OR H04N21/2403 OR H04N21/2403 OR H04N21/2403 OR H04N21/2403 OR H04N21/2404 OR H04N21/2404 OR H04N21/2403 OR H04N21/4405 OR H04N21/44209 OR | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | ON | 2015/07/10 22:36 |

| | | H04N21/44222 OR H04N21/4431 OR H04N21/47217 OR H04N21/4755 OR H04N21/4788 OR H04N21/4856 OR H04N21/64322 OR H04N21/8106 OR H04N5/765 OR H04N9/8205 OR H04N9/8211 OR H04L65/60 OR H04N9/8211 OR H04L65/60 OR H04L65/4084 OR H04L65/602 OR H04L65/80 OR H04L65/607 OR H04L65/1083 OR H04L65/4015 OR H04L65/4076 OR H04L65/4092 OR H04L65/4076 OR H04L27/0012 OR H04L47/29 OR H04L47/2416 OR H04L47/29 OR H04L47/805 OR H04L47/824 OR H04L47/805 OR H04L65/1069 OR H04L65/1063 OR H04L65/1069 OR H04L65/1063 OR H04L67/1002 OR H04L65/1063 OR H04L67/1002 OR H04L67/1008 OR H04L67/1002 OR G06F15/16 OR G06F11/2035 OR G06F11/2035 OR G06F11/2046 OR G06F17/30038 OR G06F17/30053 OR G06F17/30194 OR G06F2206/1012 OR G06F3/0484 OR G06F3/0683 | | | | |
|------|---|---|--|----|-----|---------------------|
| S124 | 3 | ("20020052967").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/02/15 21:09 |
| S125 | 3 | ("20040049793"). PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/02/15 21:16 |
| S126 | 5 | "709".clas. and playback with rate with slower with buffer with stream\$3 with media | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2016/02/17 11:09 |
| S127 | 5 | S126 AND ((H04H60/80 OR H04L29/06027 OR H04L47/12 OR H04L65/4069 OR H04L65/4076 OR H04L65/4092 OR H04L65/602 OR H04L65/607 OR H04N19/102 OR H04N19/107 OR H04N19/115 OR H04N19/117 OR H04N19/132 OR H04N19/137 OR H04N19/14 OR H04N19/152 OR H04N19/162 OR H04N19/164 OR H04N19/172 OR H04N19/182 OR H04N19/172 OR H04N19/180 OR H04N19/61 OR H04N19/80 OR H04N19/85 OR H04N21/23406 OR H04N21/25891 OR H04N21/4325 OR H04N21/4331 OR | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2016/02/17 11:09 |

| | | H04N21/4384 OR H04N21/4398 OR H04N21/44004 OR H04N21/4402 OR H04N21/440263 OR H04N21/47202 OR H04N21/47217 OR H04N21/632 OR H04N21/6587).CPC.) | | | | |
|------|-----|---|--|----|-----|---------------------|
| S128 | 3 | ("6385673").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/11/16 09:43 |
| S129 | 2 | ("20130289926").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/11/16 10:37 |
| S130 | 5 | ("5404446" "5414455" "625656" "7237254" "8191097" "5404446" "5414455" "6625656" "7237254" "8191097").PN. | US-PGPUB; USPAT | OR | OFF | 2016/11/21 17:30 |
| S131 | 259 | ("20010047377" "20020007418" "20020013948" "20020021761" "20020023165" "20020025045" "20020029166" "20020069218" "20020078174" "20020083182" "20020120675" "20020131443" "20020147634" "20020177914" "20030014488" "20030018978" "20030061305" "20030068046" "20030093790" "20030186645" "20040078812" "20040086120" "20040123725" "20040131340" "20040162910" "20040186733" "200400231004" "20040260835" "2005005025" "20050080876" "20050108320" "20050080876" "2005018320" "20050262251" "20060095472" "20060136875" "200600174134" "20060153537" "20070005428" "20070016865" "20070038728" "20070016865" "20070038728" "20070274672" "20080059532" "20080133701" "20080059532" "20080133701" "20080059532" "4606044" "4630196" "4729020" "4833535" "4839891" "4963995" "5025457" "5029164" "5057932" "5065396" "5126845" "5136655" "5154839" "5185795" "5202961" "5208810" "5237156" "5428774" "5434678" "5437687" "5440334" "5446734" "5457687" "5440334" "5446734" "5497404" "55515511" "5517672" "5521630" "5526353" "5533021" "5541852" | US-PGPUB; USPAT | OR | OFF | 2016/11/21 |

| | | "20060153537" "20060174134" "20060195856" "20070005428" "20070016865").PN. | | | | |
|------|---|--|--|----|-----|---------------------|
| S133 | 4 | ("7209437").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/12/26 18:19 |
| S134 | 2 | ("7237254").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/12/26 18:20 |
| S135 | 2 | ("6981050").PN. | US-PGPUB; USPAT; USOCR; | OR | OFF | 2016/12/26 18:20 |

| | | | FPRS; EPO; JPO; DERWENT; IBM_TDB | | | |
|------|-----|--|--|----|-----|---------------------|
| S136 | 4 | ("5414455").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/12/26 18:20 |
| S137 | 4 | ("5822524").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/12/26 18:21 |
| S138 | 13 | stream\$3 near media near player and sequential near order and serial with identif\$5 and (live real-time) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2016/12/26 18:22 |
| S139 | 13 | S138 AND ((G07F17/32 OR G07F17/3211 OR G07F17/3244 OR G07F17/3248 OR G07F17/3262).CPC.) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2016/12/26 18:23 |
| S140 | 163 | stream\$3 near media and playback and encode and rate and buffer and serial near (number identif\$5 tag) with (data element media audio video file) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2016/12/26 18:23 |
| S141 | 72 | S140 AND ((H04L12/2809 OR H04L12/2816 OR H04L12/2816 OR H04L12/282 OR H04L2012/2841 OR H04L12/282 OR H04L2012/2841 OR H04L2012/2849 OR H04L65/1069 OR H04L67/1068 OR H04L2209/56 OR H04L2209/60 OR H04L9/3236 OR H04L2209/606 OR H04L9/3236 OR H04L2209/606 OR H04L63/10 OR H04L209/606 OR H04L2209/601 OR H04L9/3271 OR H04L2209/601 OR H04L2209/603 OR H04L2209/605 OR H04L2209/603 OR H04L2463/101 OR H04L2209/80 OR H04L2463/101 OR H04L2463/103 OR H04L63/0428 OR H04L63/06 OR H04L65/605 OR H04L65/60 OR H04L65/605 OR H04L65/600 OR H04L65/605 OR H04L65/600 OR H04L9/00 OR H04L9/3234 OR H04L12/14 OR H04L12/2602 OR H04L12/14 OR H04L12/2602 OR H04L12/14 OR H04L29/06 OR H04L29/06 OR H04L29/06 OR H04L29/06 OR H04L43/10 OR H04L43/106 OR H04L43/10 OR | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OZ | 2016/12/26 18:23 |

| | | H04L47/30 OR H04L47/74 OR H04L47/748 OR H04L47/823 OR H04L63/08 OR H04L65/4084 OR H04L65/4092 OR H04L65/604 OR H04L65/80 OR H04L67/02 OR H04L67/10 OR H04L67/141 OR H04L67/142 OR H04L67/26 OR H04L67/303 OR H04L67/34 OR H04L67/38 OR H04L69/329 OR H04L7/0008).CPC. | | | | |
|------|----|--|--|----|----|---------------------|
| S142 | 33 | "709".clas. and stream\$3 near media near player and sequential near order and identif\$5 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2016/12/26 18:24 |
| S143 | 27 | S142 AND ((H04L67/104 OR H04L65/4084 OR H04L67/106 OR H04L67/10 OR H04L67/1078 OR H04L65/403 OR H04L67/1078 OR H04L65/60 OR H04L65/60 OR H04L67/1078 OR H04L65/60 OR H04L67/327 OR H04L67/322 OR H04L67/327 OR H04L67/34 OR H04L67/32 OR H04L12/2697 OR H04L67/02 OR H04L67/04 OR H04L67/1046 OR H04L67/12 OR H04L67/12 OR H04L67/12 OR H04L67/12 OR H04L67/12 OR H04L67/325 OR H04L67/12 OR H04L67/325 OR H04L69/329 OR H04L209/60 OR H04L209/80 OR H04L29/06523 OR H04L29/06489 OR H04L29/06523 OR H04L61/609 OR H04L63/082 OR H04L63/082 OR H04L63/082 OR H04L63/101 OR H04L65/103 OR H04L65/103 OR H04L65/103 OR H04L67/1008 OR H04L67/1002 OR H04L67/103 OR H04L | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | O | 2016/12/26 18:24 |
| S144 | 6 | "709".clas. and playback and bit near rate and slow\$3 with buffer with stream\$3 near media and size and speed and fast\$3 and video and variab\$5 and smooth\$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM TDB | OR | ON | 2016/12/26 18:24 |
| S145 | 5 | S144 AND ((H04L29/06027 OR | US-PGPUB; | OR | ON | 2016/12/26 |

| | | H04L47/12 OR H04L65/4069 OR H04L65/4076 OR H04L65/4092 OR H04L65/602 OR H04L65/607).CPC.) | USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | 18:24 |
|------|------|---|--|----|-----|---------------------|
| S146 | 17 | stream\$3 near media near player and sequential near order and specif\$4 near identif\$5 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2016/12/26 18:25 |
| S147 | 13 | S146 AND ((H04L65/4084 OR H04L67/06 OR H04L67/42 OR H04L65/403 OR H04L67/04 OR H04L67/12 OR H04L67/322 OR H04L65/60 OR H04L67/10 OR H04L67/02 OR H04L67/125 OR H04L67/2842 OR H04L67/306).CPC.) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2016/12/26 18:25 |
| S148 | 2 | ("20170026434").PN. | US-PGPUB; USPAT; USOCR; DERWENT | OR | OFF | 2017/05/01 12:48 |
| S149 | 1642 | stream\$3 near media and stateless | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/06/01 10:22 |
| S150 | 650 | stream\$3 near media and stateless with server | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM TDB | OR | ON | 2017/06/01 10:22 |
| S151 | 482 | stream\$3 adj media and stateless with server | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/06/01 10:22 |
| S152 | 377 | stream\$3 adj media same client with (maintain track\$3 monitor\$3) with (data media) with (receiv\$3 sent transmi\$5) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/06/01 10:27 |
| S153 | 109 | "709".clas. and stream\$3 adj media same client with (maintain track\$3 monitor\$3) with (data media) with (receiv\$3 sent transmi\$5) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2017/06/01 10:27 |
| S154 | 2 | ("20100181717").PN. | US-PGPUB; USPAT; | OR | OFF | 2017/06/02 06:52 |

| | | | USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | |
|------|----|---|--|----|-----|---------------------|
| S155 | 0 | ("201000181717").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/06/02 06:53 |
| S156 | 2 | ("20100151717").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/06/02 06:53 |
| S157 | 0 | ("201000151717").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/06/02 06:53 |
| S158 | 2 | ("20100161717").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2017/06/02 06:54 |
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| S160 | 1 | ("7187947").PN. | US-PGPUB; USPAT | OR | OFF | 2017/06/07 08:37 |
| S161 | 21 | ("5404446" "5414455" "8191097" "6385673" "5822524" "6336143" "6625656" "5874986" "5721815" "5761417" "5918002" "6032180" "6040866" "6249810" "6347094" "6763392" "6981050" "7065342" "20040049793" "20020052967" "20070005795").PN. | US-PGPUB; USPAT | OR | OFF | 2017/06/07 08:39 |
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EAST Search History

Docket No.: 0021-49 CON4B

(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: Harold Edward Price

Application No.: 15/283,544 Confirmation No.: 5655

Filed: October 3, 2016 Art Unit: 2454

For: STREAMING MEDIA DELIVERY SYSTEM

INFORMATION DISCLOSURE STATEMENT (IDS)

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

Dear Sir:

Pursuant to 37 C.F.R. § 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

In accordance with 37 C.F.R. § 1.98(a)(2)(ii), Applicant has not submitted copies of U.S. patents and U.S. patent applications. Applicant submits herewith copies of foreign patents and non-patent literature in accordance with 37 C.F.R. § 1.98(a)(2).

The following documents cited in the attached form PTO/SB/08 are not supplied because they were previously cited by or submitted to the Office at least in prior application number 13/815,040 filed January 25, 2013.

B4649580.1

Application No.: 15/283,544 2 Docket No.: 0021-49 CON4B

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /M.M.M/

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/MARSHALL M MCLEOD/

06/07/2017

In accordance with 37 C.F.R. § 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 C.F.R. § 1.56(a) exists. In accordance with 37 C.F.R. § 1.97(h), the filing of this Information Disclosure Statement shall not be construed to be an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such.

It is submitted that the Information Disclosure Statement is in compliance with 37 C.F.R. § 1.98 and the Examiner is respectfully requested to consider the listed references.

Dated: February 21, 2017

Respectfully submitted,

Ernest D. Buff

Registration No.: 25,833

Ernest D. Buff & Associates, LLC. 231 Somerville Road Bedminster, NJ 07921 (908) 901-0220

B4649580.1

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (03-15)
Approved for use through 07/31/2016. OMB 0651-0031
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 contains a valid OMB control number.

| | Application Number | | 15283544 | |
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| INFORMATION DIGGLOSUPE | Filing Date | | 2016-10-03 | |
| INFORMATION DISCLOSURE | First Named Inventor | Harold Edward Price | | |
| STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99) | Art Unit | | 2454 | |
| (Not for Submission ander of STR 1.55) | Examiner Name | MCLEOD, MARSHALL M | | |
| | Attorney Docket Number | | 0021-49 CON4B | |

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| Application Number | | 15283544 | | |
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| Filing Date | | 2016-10-03 | | |
| First Named Inventor Harole | | d Edward Price | | |
| Art Unit | | 2454 | | |
| Examiner Name MCLE | | EOD, MARSHALL M | | |
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| If you wish to add additional non-patent literature document citation information please click the Add button | | | | | | | | |
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| Examiner Name MCLE | | EOD, MARSHALL M | | |
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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.

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- 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.
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Receipt date: 04/11/2017

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /M.M.M/

| Substit | tute for form 1449/PTO | | | Complete if Known | | |
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| | | | | Application Number | 15/283,544 | |
| INF | FORMATION | 1 DI | SCLOSURE | Filing Date | October 3, 2016 | |
| ST | ATEMENT | 3Y / | APPLICANT | First Named Inventor | Harold E. Price | |
| | | | | Art Unit | 2454 | |
| | (Use as many she | eets as | s necessary) | Examiner Name | MCLEOD, MARSHALL M. | |
| Sheet | heet 1 of 9 | | Attorney Docket Number | 0021-49-CON4B | | |

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| | | NON PATENT LITERATURE DOCUMENTS | |
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| Examiner Initials* | Cite No.1 | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |
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| | | | | Application Number 15/283,544 | | |
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| ST | ATEMENT | 3Y / | APPLICANT | First Named Inventor | Harold E. Price | |
| | | | | Art Unit | 2454 | |
| | (Use as many sheets as necessary) | | | Examiner Name | MCLEOD, MARSHALL M. | |
| Sheet | 7 | of | 9 | Attorney Docket Number | 0021-49-CON4B | |

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| | | | | Art Unit | 2454 | |
| | (Use as many sheets as necessary) | | | Examiner Name | MCLEOD, MARSHALL M. | |
| Sheet | 8 | of | 9 | Attorney Docket Number | 0021-49-CON4B | |

| | | Facsimile of a | SB/08. |
|---|------|--|--------|
| I | 196. | "ATSC Digital Television Standard - A53"; September 16, 1995 | |
| | 197. | "Transmission Control Protocol DARPA Internet Program Protocol Specification, RFC 793; September 1981 | |
| | 198. | International Standard ISO IEC 11172-1; August 1, 1993 | |
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| Examiner | | Date | |
|-----------|---------------------|------------|------------|
| Signature | /MARSHALL M MCLEOD/ | Considered | 06/07/2017 |

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

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| | | | | Art Unit | 2454 | |
| | (Use as many sheets as necessary) | | | Examiner Name | MCLEOD, MARSHALL M. | |
| Sheet | 9 | of | 9 | Attorney Docket Number | 0021-49-CON4B | |

| | CERTIFICATION STATEMEN | Т | | | | | |
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| Please see 37 CFR 1 | Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s): | | | | | | |
| from a foreign p | of information contained in the information disclosure stratent office in a counterpart foreign application not mor osure statement. See 37 CFR 1.97(e)(1). | | | | | | |
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| X The fee set forth | in 37 CFR 1.17 (p) has been submitted herewith. | | | | | | |
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| lame/Print Ernest D. Buff Registration No. 25,833 | | | | | | | |
| This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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. | | | | | | | |

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Search Notes



| Application/Control No. | Applicant(s)/Patent Under Reexamination |
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| 15283544 | PRICE, HAROLD EDWARD |

Examiner Art Unit

MARSHALL MCLEOD 2454

| CPC- SEARCHED | | | | | | | | |
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| Symbol | Date | Examiner | | | | | | |
| H04L65 | 12/23/2016 | MM | | | | | | |
| H04L49 | 12/23/2016 | MM | | | | | | |
| H04L65/80 | 6/7/2017 | MM | | | | | | |
| H04L65/4076 | 6/7/2017 | MM | | | | | | |
| H04L49/90 | 6/7/2017 | MM | | | | | | |
| H04L49/901 | 6/7/2017 | MM | | | | | | |
| H04L49/9084 | 6/7/2017 | MM | | | | | | |
| H04N21/23406 | 6/7/2017 | MM | | | | | | |
| H04N21/23805 | 6/7/2017 | MM | | | | | | |
| H04N21/2407 | 6/7/2017 | MM | | | | | | |

| CPC COMBINATION SETS - SEARCHED | | | | | | | |
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| 709 | 203 | 6/7/2017 | MM | | | | | | |
| 709 | 204 | 6/7/2017 | MM | | | | | | |
| 709 | 217 | 6/7/2017 | MM | | | | | | |
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| SEARCH NOTES | | |
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| Search Notes | Date | Examiner |
| EAST search history attached | 6/7/2017 | MM |
| Searched class 709 with text | 6/7/2017 | MM |
| Searched CPC with text | 6/7/2017 | MM |
| Searched GOOGLE with text | 6/7/2017 | MM |
| Consulted with SPE Joseph Avellino in regards to allowance | 6/5/2017 | MM |

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| INTERFERENCE SEARCH | | | | | | | | | | |
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| H04L65 | 4076 | 6/7/2017 | MM | | | | | | | |
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| H04L49 | 901 | 6/7/2017 | MM | | | | | | | |
| H04L49 | 9084 | 6/7/2017 | MM | | | | | | | |
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| H04N21 | 23805 | 6/7/2017 | MM | | | | | | | |
| H04N21 | 2407 | 6/7/2017 | MM | | | | | | | |
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| 709 | 204 | 6/7/2017 | MM | | | | | | | |
| 709 | 217 | 6/7/2017 | MM | | | | | | | |
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| | Application/Control No. | Applicant(s)/Patent Under Reexamination |
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| Index of Claims | 15283544 | PRICE, HAROLD EDWARD |
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| INFORMATION DISCLOSURE | First Named Inventor | Harold Edward Price | | |
| (Not for submission under 37 CFR 1.99) | Art Unit | | 2454 | |
| (Not for Submission under 57 Of K 1.55) | Examiner Name | Marsh | nall M. McLeod | |
| | Attorney Docket Numb | er | 0021-49 CON4B | |

| U.S.PATENTS | | | | | | | | | | |
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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| Application Number | | 15283544 | | | | |
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| Filing Date | | 2016-10-03 | | | | |
| First Named Inventor Harole | | d Edward Price | | | | |
| Art Unit | | 2454 | | | | |
| Examiner Name Marsh | | nall M. McLeod | | | | |
| Attorney Docket Number | | 0021-49 CON4B | | | | |

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| 2 | icecast, FAQ, July 1999 | |
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| Examiner Name | Marsh | nall M. McLeod | | | | |
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| | 13 | icecast, icetypes.h, July 1999 | | | | | | | | |
| | 14 icecast, client.c, July 1999 | | | | | | | | | |
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| Art Unit | | 2454 |
| Examiner Name | Marsh | nall M. McLeod |
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Issue Classification



| | Applicant(s)/Patent Under Reexamination |
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| 15283544 | PRICE, HAROLD EDWARD |

Examiner Art Unit

MARSHALL MCLEOD 2454

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| (Assistant Examiner) | (Date) | 12 | | |
| /JOSEPH E AVELLINO/ Supervisory Patent Examiner.Art Unit 2454 | 06/12/2017 | O.G. Print Claim(s) | O.G. Print Figure | |
| (Primary Examiner) | (Date) | 1 | 3 | |

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| | Application/Control No. | Applicant(s)/Patent Under Reexamination |
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| Issue Classification | 15283544 | PRICE, HAROLD EDWARD |
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Application/Control No. 15283544 Examiner MARSHALL MCLEOD Applicant(s)/Patent Under Reexamination PRICE, HAROLD EDWARD Art Unit 2454

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| | Application Number | | 15283544 | |
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| INFORMATION DIGGLOSTINE | Filing Date | | 2016-10-03 | |
| INFORMATION DISCLOSURE | First Named Inventor Harole | | rold Edward Price | |
| STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99) | Art Unit | | 2454 | |
| (Not for Submission under of of K 1.50) | Examiner Name | MARS | SHALL M. MCLEOD | |
| | Attorney Docket Numb | er | 0021-49-CON4B | |

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| First Named Inventor Hard | | old Edward Price | | |
| Art Unit | | 2454 | | |
| Examiner Name MARS | | SHALL M. MCLEOD | | |
| Attorney Docket Number | | 0021-49-CON4B | | |

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| | 17 | IPR2017-00786 Decision Granting Joinder, 6/5/2017. | | | | | | | | | |
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| Art Unit | | 2454 | | |
| Examiner Name MARS | | SHALL M. MCLEOD | | |
| Attorney Docket Number | | 0021-49-CON4B | | |

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| Name/Print | Ernest D. Buff | Registration Number | 25833 |

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| Application Number: 15283544 | | | | | | | | |
| Filing Date: | 03-Oct-2016 | | | | | | | |
| Title of Invention: | STREAMING MEDIA DELIVERY SYSTEM | | | | | | | |
| First Named Inventor/Applicant Name: | Harold Edward Price | | | | | | | |
| Filer: | ERNEST D BUFF/Juliette Ferrigno | | | | | | | |
| Attorney Docket Number: | 002 | 21-49 CON4B | | | | | | |
| Filed as Small Entity | | | | | | | | |
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| Confirmation Number: | 5655 | | | |
| Title of Invention: | STREAMING MEDIA DELIVERY SYSTEM | | | |
| First Named Inventor/Applicant Name: | Harold Edward Price | | | |
| Customer Number: | 25901 | | | |
| Filer: | ERNEST D BUFF/Juliette Ferrigno | | | |
| Filer Authorized By: | ERNEST D BUFF | | | |
| Attorney Docket Number: | 0021-49 CON4B | | | |
| Receipt Date: | 15-JUN-2017 | | | |
| Filing Date: | 03-OCT-2016 | | | |
| Time Stamp: | 18:14:49 | | | |
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15283544 **Application Number** 2016-10-03 Filing Date Harold Edward Price First Named Inventor Art Unit 2454

MARSHALL M. MCLEOD

0021-49-CON4B

Examiner Name

Attorney Docket Number

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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| First Named Inventor | Hard | old Edward Price |
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| Examiner Name MARS | | SHALL M. MCLEOD |
| Attorney Docket Number | | 0021-49-CON4B |

| 1 | Eric Cole, "Hiding in Plain Sight: Steganography and the Art of Covert Communication," April 11, 2003; Wiley Publishing, Inc., ISBN-10: 0471444499. | |
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| Application Number | | 15283544 |
|---------------------------|--|------------------|
| Filing Date | | 2016-10-03 |
| First Named Inventor Hard | | old Edward Price |
| Art Unit | | 2454 |
| Examiner Name MARS | | SHALL M. MCLEOD |
| Attorney Docket Number | | 0021-49-CON4B |

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| | 18 | BIPR2017-00820 Decision Granting Joinder; 6/5/2017. | | | | | | | | |
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(Not for submission under 37 CFR 1.99)

| Application Number | | 15283544 |
|------------------------|------|------------------|
| Filing Date | | 2016-10-03 |
| First Named Inventor | Hard | old Edward Price |
| Art Unit | | 2454 |
| Examiner Name MARS | | SHALL M. MCLEOD |
| Attorney Docket Number | | 0021-49-CON4B |

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

- X The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
- X A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

| Signature | /Ernest D. Buff/ | Date (YYYY-MM-DD) | 2017-06-15 |
|------------|------------------|---------------------|------------|
| Name/Print | Ernest D. Buff | Registration Number | 25833 |

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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.**

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- 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.
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| Application Number: | 15283544 | | | | | |
| International Application Number: | | | | | | |
| Confirmation Number: | 5655 | | | | | |
| Title of Invention: | STREAMING MEDIA DELIVERY SYSTEM | | | | | |
| First Named Inventor/Applicant Name: | Harold Edward Price | | | | | |
| Customer Number: | 25901 | | | | | |
| Filer: | ERNEST D BUFF/Juliette Ferrigno | | | | | |
| Filer Authorized By: | ERNEST D BUFF | | | | | |
| Attorney Docket Number: | 0021-49 CON4B | | | | | |
| Receipt Date: | 15-JUN-2017 | | | | | |
| Filing Date: | 03-OCT-2016 | | | | | |
| Time Stamp: | 18:20:19 | | | | | |
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| | Application Number | | 15283544 | |
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| | Filing Date | | 2016-10-03 | |
| INFORMATION DISCLOSURE | First Named Inventor | Harol | d Edward Price | |
| STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99) | Art Unit | | 2454 | |
| (Not for submission under of of K 1.33) | Examiner Name | Marsh | nall M. McLeod | |
| | Attorney Docket Numb | er | 0021-49 CON4B | |

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| First Named Inventor | Harold Edward Price | | | |
| Art Unit | | 2454 | | |
| Examiner Name | Marshall M. McLeod | | | |
| Attorney Docket Number | | 0021-49 CON4B | | |

| 1 | icecast, AUTHORS, July 1999 | |
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| 2 | icecast, FAQ, July 1999 | |
| 3 | icecast, How to Configure, July 1999 | |
| 4 | icecast, README, July 1999 | |
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| 6 | icecast, icecast.conf, July 1999 | |
| 7 | icecast, source.c, July 1999 | |
| 8 | icecast, connection.c, July 1999 | |
| 9 | icecast, sock.c, July 1999 | |
| 10 | icecast, utility.c, July 1999 | |
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)

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| Art Unit | | 2454 | | |
| Examiner Name | Marshall M. McLeod | | | |
| Attorney Docket Number | | 0021-49 CON4B | | |

| | 12 | icecas | st, main.c, July 1999 | | | |
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| | 13 | icecas | st, icetypes.h, July 1999 | | | |
| | 14 | icecas | st, client.c, July 1999 | | | |
| icecast, ice_string.c, July 1999 | | | | | | |
| | 16 | icecas | st, icecast.h, July 1999 | | | |
| | 17 icecast, sock.h, July 1999 | | | | | |
| | 18 shout.c, July 1999 | | | | | |
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| First Named Inventor | Harol | d Edward Price |
| Art Unit | | 2454 |
| Examiner Name | Marsh | nall M. McLeod |
| Attorney Docket Number | | 0021-49 CON4B |

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| | That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2). | | | | | |
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| \boxtimes | The fee set forth | in 37 CFR 1.17 (p) has been submitted here | with. | | | |
| \boxtimes | A certification sta | atement is not submitted herewith. | | | | |
| SIGNATURE A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature. | | | | | | |
| Sign | nature | /Ernest D. Buff/ | Date (YYYY-MM-DD) | 2017-05-18 | | |
| Nan | ne/Print | Ernest D. Buff | Registration Number | 25833 | | |
| publ | This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour to complete, including gathering, preparing and submitting the completed | | | | | |

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|---|---------------------------------|-------------|----------|--------|-------------------------|--|
| Application Number: | 15: | 283544 | | | | |
| Filing Date: | 03- | Oct-2016 | | | | |
| Title of Invention: | STREAMING MEDIA DELIVERY SYSTEM | | | | | |
| First Named Inventor/Applicant Name: | Harold Edward Price | | | | | |
| Filer: | ERNEST D BUFF/Ernest Buff | | | | | |
| Attorney Docket Number: | 002 | 21-49 CON4B | | | | |
| Filed as Small Entity | | | | | | |
| Filing Fees for Utility under 35 USC 111(a) | | | | | | |
| Description | | Fee Code | Quantity | Amount | Sub-Total in USD(\$) | |
| Basic Filing: | | | | | | |
| Pages: | | | | | | |
| Claims: | | | | | | |
| Miscellaneous-Filing: | | | | | | |
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| EFS ID: | 29244868 | | | |
| Application Number: | 15283544 | | | |
| International Application Number: | | | | |
| Confirmation Number: | 5655 | | | |
| Title of Invention: | STREAMING MEDIA DELIVERY SYSTEM | | | |
| First Named Inventor/Applicant Name: | Harold Edward Price | | | |
| Customer Number: | 25901 | | | |
| Filer: | ERNEST D BUFF/Ernest Buff | | | |
| Filer Authorized By: | ERNEST D BUFF | | | |
| Attorney Docket Number: | 0021-49 CON4B | | | |
| Receipt Date: | 18-MAY-2017 | | | |
| Filing Date: | 03-OCT-2016 | | | |
| Time Stamp: | 11:13:50 | | | |
| Application Type: | Utility under 35 USC 111(a) | | | |

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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

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| Electronic Patent Application Fee Transmittal | | | | | | | |
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| Application Number: | 15 | 283544 | | | | | |
| Filing Date: | 03- | Oct-2016 | | | | | |
| Title of Invention: | STREAMING MEDIA DELIVERY SYSTEM | | | | | | |
| First Named Inventor/Applicant Name: | Harold Edward Price | | | | | | |
| Filer: | Erik Alexander Huestis/Juliette Ferrigno | | | | | | |
| Attorney Docket Number: | 0021-49 CON4B | | | | | | |
| Filed as Small Entity | | | | | | | |
| Filing Fees for Utility under 35 USC 111(a) | | | | | | | |
| Description | | Fee Code | Quantity | Amount | Sub-Total in USD(\$) | | |
| Basic Filing: | | | | | | | |
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| EFS ID: | 29249610 |
| Application Number: | 15283544 |
| International Application Number: | |
| Confirmation Number: | 5655 |
| Title of Invention: | STREAMING MEDIA DELIVERY SYSTEM |
| First Named Inventor/Applicant Name: | Harold Edward Price |
| Customer Number: | 25901 |
| Filer: | Erik Alexander Huestis/Juliette Ferrigno |
| Filer Authorized By: | Erik Alexander Huestis |
| Attorney Docket Number: | 0021-49 CON4B |
| Receipt Date: | 18-MAY-2017 |
| Filing Date: | 03-OCT-2016 |
| Time Stamp: | 15:16:43 |
| Application Type: | Utility under 35 USC 111(a) |

Payment information:

| Submitted with Payment | yes |
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| Payment Type | DA |
| Payment was successfully received in RAM | \$90 |
| RAM confirmation Number | 051917INTEFSW00001563061448 |
| Deposit Account | 061448 |
| Authorized User | Juliette Ferrigno |

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

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File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
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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.

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| INF | FORMATION | 1 DI | SCLOSURE | Filing Date | October 3, 2016 | |
| ST | ATEMENT | 3Y / | APPLICANT | First Named Inventor | Harold E. Price | |
| | | | | Art Unit | 2454 | |
| | (Use as many she | eets as | s necessary) | Examiner Name | MCLEOD, MARSHALL M. | |
| Sheet | 1 | of | 9 | Attorney Docket Number | 0021-49-CON4B | |

Facsimile of SB/08.

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| ST | ATEMENT E | 3Y / | APPLICANT | First Named Inventor | Harold E. Price | |
| | | | | Art Unit | 2454 | |
| | (Use as many she | eets as | s necessary) | Examiner Name | MCLEOD, MARSHALL M. | |
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| | | | | Art Unit | 2454 | |
| | (Use as many she | eets as | s necessary) | Examiner Name | MCLEOD, MARSHALL M. | |
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| | | | | Art Unit | 2454 | |
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| ST | ATEMENT | 3Y / | APPLICANT | First Named Inventor | Harold E. Price | |
| | | | | Art Unit | 2454 | |
| | (Use as many she | eets as | s necessary) | Examiner Name | MCLEOD, MARSHALL M. | |
| Sheet | 5 | of | 9 | Attorney Docket Number | 0021-49-CON4B | |

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| | Application Number | | 15283544 | |
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| INFORMATION DISCLOSURE | First Named Inventor Hard | | rold Edward Price | |
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| Electronic Patent Application Fee Transmittal | | | | | | | |
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| Application Number: | 15283544 | | | | | | |
| Filing Date: | 03- | Oct-2016 | | | | | |
| Title of Invention: | STREAMING MEDIA DELIVERY SYSTEM | | | | | | |
| First Named Inventor/Applicant Name: | На | rold Edward Price | | | | | |
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| Confirmation Number: | 5655 | | | | | |
| Title of Invention: | STREAMING MEDIA DELIVERY SYSTEM | | | | | |
| First Named Inventor/Applicant Name: | Harold Edward Price | | | | | |
| Customer Number: | 25901 | | | | | |
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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.

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|-----------------------------------|---|---------------|---------------------|------------------------|-----------------|--|
| | | | | Application Number | 15/283,544 | |
| INFORMATION DISCLOSURE | | | SCLOSURE | Filing Date | October 3, 2016 | |
| STATEMENT BY APPLICANT | | | APPLICANT | First Named Inventor | Harold E. Price | |
| | | Art Unit | 2454 | | | |
| (Use as many sheets as necessary) | | Examiner Name | MCLEOD, MARSHALL M. | | | |
| Sheet | 8 | of | 9 | Attorney Docket Number | 0021-49-CON4B | |

| | Facsimile of | SB/08. |
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| Examiner | Date | |
|-----------|------------|--|
| Signature | Considered | |

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

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| | | | | Application Number | 15/283,544 | |
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| ST | ATEMENT E | 3Y / | APPLICANT | First Named Inventor | Harold E. Price | |
| | | | | Art Unit | 2454 | |
| (Use as many sheets as necessary) | | Examiner Name | MCLEOD, MARSHALL M. | | | |
| Sheet | 9 | of | 9 | Attorney Docket Number | 0021-49-CON4B | |

| | CERTIFICAT | ION STATEMENT | Г | | | | |
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| Please see 37 CFR 1 | Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s): | | | | | | |
| from a foreign p | That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1). | | | | | | |
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| foreign patent o after making rea any individual de | information contained in the informatic ffice in a counterpart foreign application asonable inquiry, no item of information c esignated in 37 CFR 1.56(c) more than 37 CFR 1.97(e)(2). | i, and, to the know contained in the inf | wledge of the formation dis | e person signing the certification closure statement was known to | | | |
| See attached ce | rtification statement. | | | | | | |
| X The fee set forth | in 37 CFR 1.17 (p) has been submitted h | nerewith. | | | | | |
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| SIGNATURE A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the orm of the signature. | | | | | | | |
| Signature | /Ernest D. Buff/ | | Date (YYYY-MM- DD) | 2016-11-20 | | | |
| Name/Print | Ernest D. Buff | | Registration No. | 25,833 | | | |
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| Electronic Patent Application Fee Transmittal | | | | | |
|---|---------------------------|-------------------|----------------|--------|-------------------------|
| Application Number: | 15: | 283544 | | | |
| Filing Date: | 03- | Oct-2016 | | | |
| Title of Invention: | STI | REAMING MEDIA DE | ELIVERY SYSTEM | | |
| First Named Inventor/Applicant Name: | На | rold Edward Price | | | |
| Filer: | ERNEST D BUFF/Ernest Buff | | | | |
| Attorney Docket Number: | 002 | 21-49 CON4B | | | |
| Filed as Small Entity | | | | | |
| Filing Fees for Utility under 35 USC 111(a) | | | | | |
| Description | | Fee Code | Quantity | Amount | Sub-Total in USD(\$) |
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| Miscellaneous-Filing: | | | | | |
| Petition: | | | | | |
| Patent-Appeals-and-Interference: | | | | | |
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| EFS ID: | 28889236 | | | | |
| Application Number: | 15283544 | | | | |
| International Application Number: | | | | | |
| Confirmation Number: | 5655 | | | | |
| Title of Invention: | STREAMING MEDIA DELIVERY SYSTEM | | | | |
| First Named Inventor/Applicant Name: | Harold Edward Price | | | | |
| Customer Number: | 25901 | | | | |
| Filer: | ERNEST D BUFF/Ernest Buff | | | | |
| Filer Authorized By: | ERNEST D BUFF | | | | |
| Attorney Docket Number: | 0021-49 CON4B | | | | |
| Receipt Date: | 11-APR-2017 | | | | |
| Filing Date: | 03-OCT-2016 | | | | |
| Time Stamp: | 11:05:18 | | | | |
| Application Type: | Utility under 35 USC 111(a) | | | | |

Payment information:

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PTO/SB/08a (03-15)
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| | Application Number | | 15283544 | | |
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| INFORMATION DISCLOSURE | First Named Inventor Harold | | rold Edward Price | | |
| STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99) | Art Unit | | 2454 | | |
| (Not for submission under or of it issue) | Examiner Name | Marsh | nall M. McLeod | | |
| | Attorney Docket Number | | 0021-49 CON4B | | |

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

| Application Number | | 15283544 |
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| Filing Date | | 2016-10-03 |
| First Named Inventor Harole | | d Edward Price |
| Art Unit | | 2454 |
| Examiner Name Marsh | | all M. McLeod |
| Attorney Docket Number | | 0021-49 CON4B |

| | 1 | | SHAE, et al., Large Scale Experiments on Low Bit Rate Multimedia Broadcast, IS&T/SPIE Conference on Visual Communications and Image Processing '99, SPIE Vol. 3653, January 1999 | | | | | | |
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| | 2 | DWIF | RE, Client/Server Computing, McGraw-Hill, Inc., 1993 | | | | | | |
| | 3 | IPR20 | R2016-01655 Decision Denying Institution, Feb. 27, 2017 | | | | | | |
| | 4 | IPR2016-01656 Decision Instituting, Feb. 27, 2017 | | | | | | | |
| | 5 | IPR20 | PR2016-01657 Decision Denying Institution, Feb. 27, 2017 | | | | | | |
| | 6 | IPR2 | 016-01658 Decision Instituting, Feb. 27, 2017 | | | | | | |
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

| Application Number | | 15283544 | |
|----------------------------|--|----------------|--|
| Filing Date | | 2016-10-03 | |
| First Named Inventor Harol | | d Edward Price | |
| Art Unit | | 2454 | |
| Examiner Name Marsi | | nall M. McLeod | |
| Attorney Docket Number | | 0021-49 CON4B | |

| Plea | ase see 37 CFR 1 | .97 and 1.98 to make the appropriate select | ion(s): | | | | |
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| Nar | ne/Print | Ernest D. Buff | Registration Number | 25,833 | | | |
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| Electronic Patent Application Fee Transmittal | | | | | | | | |
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| Application Number: | 152 | 283544 | | | | | | |
| Filing Date: | 03- | Oct-2016 | | | | | | |
| Title of Invention: | STI | REAMING MEDIA DE | LIVERY SYSTEM | | | | | |
| First Named Inventor/Applicant Name: | На | rold Edward Price | | | | | | |
| Filer: | ERNEST D BUFF/Ernest Buff | | | | | | | |
| Attorney Docket Number: | 002 | 21-49 CON4B | | | | | | |
| Filed as Small Entity | | | | | | | | |
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| Application Number: | 15283544 |
| International Application Number: | |
| Confirmation Number: | 5655 |
| Title of Invention: | STREAMING MEDIA DELIVERY SYSTEM |
| First Named Inventor/Applicant Name: | Harold Edward Price |
| Customer Number: | 25901 |
| Filer: | ERNEST D BUFF/Ernest Buff |
| Filer Authorized By: | ERNEST D BUFF |
| Attorney Docket Number: | 0021-49 CON4B |
| Receipt Date: | 06-APR-2017 |
| Filing Date: | 03-OCT-2016 |
| Time Stamp: | 17:15:56 |
| Application Type: | Utility under 35 USC 111(a) |

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| | | | 566834 | | |
| 6 | Non Patent Literature | IPR2016-01658-Decision- Instituting.pdf | 299d74c2f04230a2aa0edfeec6d04635c6b1 f4c9 | no | 24 |
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| | | | 30477 | | |
| 7 Fee Worksheet | Fee Worksheet (SB06) | fee-info.pdf | 82e9a639b3935d5897fb97186564ec76be8 a5cfd | no | 2 |
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| | | Total Files Size (in bytes) | 555 | 84066 | |

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.

| Electronic Patent Application Fee Transmittal | | | | | | | | |
|--|--|-------------|----------|--------|-------------------------|--|--|--|
| Application Number: | 15: | 283544 | | | | | | |
| Filing Date: | 03- | 03-Oct-2016 | | | | | | |
| Title of Invention: | STREAMING MEDIA DELIVERY SYSTEM | | | | | | | |
| First Named Inventor/Applicant Name: Harold Edward Price | | | | | | | | |
| Filer: | Erik Alexander Huestis/Juliette Ferrigno | | | | | | | |
| Attorney Docket Number: | Attorney Docket Number: 0021-49 CON4B | | | | | | | |
| Filed as Small Entity | | | | | | | | |
| Filing Fees for Utility under 35 USC 111(a) | | | | | | | | |
| Description | | Fee Code | Quantity | Amount | Sub-Total in USD(\$) | | | |
| Basic Filing: | | | · | | | | | |
| Pages: | | | | | | | | |
| Claims: | | | | | | | | |
| Miscellaneous-Filing: | | | | | | | | |
| Petition: | | | | | | | | |
| Patent-Appeals-and-Interference: | | | | | | | | |
| Post-Allowance-and-Post-Issuance: | | | | | | | | |
| Extension-of-Time: | | | | | | | | |

| Description | Fee Code | Quantity | Amount | Sub-Total in USD(\$) |
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| Miscellaneous: | | | | |
| SUBMISSION- INFORMATION DISCLOSURE STMT | 2806 | 1 | 90 | 90 |
| | Tot | al in USD | (\$) | 90 |
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| Electronic Acknowledgement Receipt | | | | | |
|--------------------------------------|--|--|--|--|--|
| EFS ID: | 28859393 | | | | |
| Application Number: | 15283544 | | | | |
| International Application Number: | | | | | |
| Confirmation Number: | 5655 | | | | |
| Title of Invention: | STREAMING MEDIA DELIVERY SYSTEM | | | | |
| First Named Inventor/Applicant Name: | Harold Edward Price | | | | |
| Customer Number: | 25901 | | | | |
| Filer: | Erik Alexander Huestis/Juliette Ferrigno | | | | |
| Filer Authorized By: | Erik Alexander Huestis | | | | |
| Attorney Docket Number: | 0021-49 CON4B | | | | |
| Receipt Date: | 06-APR-2017 | | | | |
| Filing Date: | 03-OCT-2016 | | | | |
| Time Stamp: | 23:10:16 | | | | |
| Application Type: | Utility under 35 USC 111(a) | | | | |

Payment information:

| Submitted with Payment | yes | | | |
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| Payment Type | DA | | | |
| Payment was successfully received in RAM | \$90 | | | |
| RAM confirmation Number | 040717INTEFSW00006580061448 | | | |
| Deposit Account | 061448 | | | |
| Authorized User | Juliette Ferrigno | | | |

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

37 CFR 1.16 (National application filing, search, and examination fees)

37 CFR 1.17 (Patent application and reexamination processing fees)

37 CFR 1.19 (Document supply fees)37 CFR 1.20 (Post Issuance fees)37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
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| | | | 30741 | | |
| 1 | Fee Worksheet (SB06) | fee-info.pdf | fa017322deef02c93347a7fc884dd9f45470 a8af | no | 2 |

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Information:

Total Files Size (in bytes): 30741

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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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : WAG Acquisition, L.L.C. Customer No. : 25901

Serial No. : 15/283,544 Confirmation No. : 5655

Filed : October 3, 2016 Group Art Unit : 2454

Examiner : Marshall M. McLeod

For : STREAMING MEDIA DELIVERY SYSTEM

RESPONSE TO NON-FINAL OFFICE ACTION

VIA ELECTRONIC FILING

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

Dear Sir:

In response to the Non-Final Office Action dated December 29, 2016, Applicant submits the following Amendments and Remarks for entry into the file of the above-referenced application.

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

Remarks begin on page 8 of this paper.

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AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the

application:

1. (Currently amended) A method for distributing a live audio or video program over the Internet

from a server system to a plurality of user systems, the method comprising:

receiving at the server system a continuous digitally encoded stream for the audio or video

program, via a data connection from a live source, in real time, the server system comprising at

least one computer;

upon receipt of the stream by the server system,

supplying, at the server system, media data elements representing the program, each

media data element comprising a digitally encoded portion of the program and

having a playback rate,

serially identifying the media data elements, said serial identification indicating a

time sequence of the media data elements, and

storing the media data elements in a data structure under the control of the server

system;

receiving requests at the server system via one or more data connections over the Internet,

for one or more of the media data elements stored in the data structure, each received request

specifying one or more serial identifiers of the requested one or more media data elements, each

received request originating from a requesting user system of a plurality of user systems; and

responsive to the requests, sending, by the server system, the one or more media data

elements having the one or more specified serial identifiers, to the requesting user systems

corresponding to the requests; wherein

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the data connection between the server system and each requesting user system has a data rate more rapid than the playback rate of the one or more media data elements

sent via that connection;

each sending is at a transmission rate as fast as the data connection between the

server system and each requesting user system allows;

the one or more media data elements sent are selected without depending on the

server system maintaining a record of the last media data element sent to the

requesting user systems;

all of the media data elements that are sent by the server system to the plurality of

user systems are sent in response to the requests; and

all of the media data elements that are sent by the server system to the requesting

user systems are sent from the data structure under the control of the server system

as the media data elements were first stored therein.

2. (Original) The method of claim 1 wherein the serial identifiers are sequential.

3. (Original) The method of claim 1, wherein the sending is via a reliable transmission protocol.

4. (Original) The method of claim 3, wherein the reliable transmission protocol is TCP.

5. (Currently amended) A server system for distributing a live audio or video program over the

Internet to a plurality of user systems, the server system comprising:

at least one computer having a connection to the Internet;

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a machine-readable, executable routine containing instructions to cause one of the at least

one computers to receive a continuous digitally encoded stream for the live audio or video

program, via a data connection from a live source, in real time;

a machine-readable, executable routine containing instructions to cause one of the at least

one computers, upon receipt of the stream by the server system,

to supply, at the server system, media data elements representing the program, each

media data element comprising a digitally encoded portion of the program and

having a playback rate,

to serially identify the media data elements, said serial identification indicating a

time sequence of the media data elements, and

to store the media data elements in a data structure under the control of the server

system;

a machine-readable, executable routine containing instructions to cause one of the at least

one computers to receive requests at the server system via one or more data connections over the

Internet, for one or more of the media data elements stored in the data structure, each received

request specifying one or more serial identifiers of the requested one or more media data elements,

each received request originating from a requesting user system of a plurality of user systems; and

a machine-readable, executable routine containing instructions to cause one of the at least

one computers to send, responsive to the requests, the one or more media data elements having the

one or more specified serial identifiers, to the requesting user systems corresponding to the

requests; wherein,

the data connection between the server system and each requesting user system has

a data rate more rapid than the playback rate of the one or more media data elements

sent via that connection:

each sending is at a transmission rate as fast as the data connection between the

server system and each requesting user system allows;

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the one or more media data elements sent are selected without depending on the

server system maintaining a record of the last media data element sent to the

requesting user systems;

all of the media data elements that are sent by the server system to the plurality of

user systems are sent in response to the requests; and

all of the media data elements that are sent by the server system to the requesting

user systems are sent from the data structure under the control of the server system

as the media data elements were first stored therein.

6. (Original) The server system of claim 5 wherein the serial identifiers are sequential.

7. (Original) The server system of claim 5, wherein the sending is via a reliable transmission

protocol.

8. (Original) The server system of claim 7, wherein the reliable transmission protocol is TCP.

9. (Currently amended) A computer program product for distributing a live audio or video program

over the Internet from a server system comprising at least one computer to a plurality of user

systems, the computer program product comprising a non-transitory computer readable storage

medium having program instructions embodied therewith, the program instructions comprising:

instructions executable to cause one of the at least one computers to receive a continuous

digitally encoded stream for the audio or video program, via a data connection from a live source,

in real time;

instructions executable to cause one of the at least one computers, upon receipt of the

stream by the server system,

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to supply, at the server system, media data elements representing the program, each

media data element comprising a digitally encoded portion of the program and

having a playback rate,

to serially identify the media data elements, said serial identification indicating a

time sequence of the media data elements, and

to store the media data elements in a data structure under the control of the server

system;

instructions executable to cause one of the at least one computers to receive requests at the

server system via one or more data connections over the Internet, for one or more of the media

data elements stored in in the data structure, each received request specifying one or more serial

identifiers of the requested one or more media data elements, each received request originating

from a requesting user system of a plurality of user systems; and

instructions executable to cause one of the at least one computers to send, responsive to the

requests, the one or more media data elements having the one or more specified serial identifiers,

to the requesting user systems corresponding to the requests; wherein,

the data connection between the server system and each requesting user system has

a data rate more rapid than the playback rate of the one or more media data elements

sent via that connection:

each sending is at a transmission rate as fast as the data connection between the

server system and each requesting user system allows;

the one or more media data elements sent are selected without depending on the

server system maintaining a record of the last media data element sent to the

requesting user systems;

all of the media data elements that are sent by the server system to the plurality of

user systems are sent in response to the requests; and

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all of the media data elements that are sent by the server system to the requesting

user systems are sent from the data structure under the control of the server system

as the media data elements were first stored therein.

10. (Original) The computer program product of claim 9 wherein the serial identifiers are

sequential.

11. (Original) The computer program product of claim 9, wherein the sending is via a reliable

transmission protocol.

12. (Original) The computer program product of claim 11, wherein the reliable transmission

protocol is TCP.

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REMARKS

The Applicant thanks the Examiner for his consideration of the application.

Claims 1-12 were pending in this application. In the Non-Final Action mailed on

December 29, 2016, the Examiner rejected Claims 9-12 under 35 U.S.C. §101 as directed to non-

statutory subject matter. The Examiner rejected Claims 1-12 under 35 U.S.C. §103 as obvious

over Hooper, et al. (U.S. Pat. No. 5,414,455) in view of Omoigui (U.S. Pat. No. 7,237,254), Tobias,

et al. (U.S. Pat. No. 6,981,050), Hodgkinson, et al. (U.S. Pat. No. 7,209,437), and Chen, et al.

(U.S. Pat. No. 5,822,524).

Applicant hereby amends Claims 1, 5, and 9 to recite "said serial identification indicating

a time sequence of the media data elements." Applicant makes these amendments solely to

facilitate expeditious prosecution. Applicant does not concede that the subject matter originally

claimed is unpatentable over the art cited by the Examiner, and reserves the right to pursue such

claims in one or more continuing applications.

Applicant respectfully traverses the rejection of the pending claims, and requests

reconsideration in light of the following remarks.

Interview Summary

Applicant thanks the Examiner for the courtesies extended to Applicant's representative

during the March 8 interview. During the interview, the rejection of the independent claims in

light of Omoigui was discussed. The Examiner indicated that further clarification of the serial

identifier language of the independent claims would be sufficient to overcome the prior art of

record.

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Rejection Under 35 U.S.C. 101

In the rejection of Claims 9-12, under 35 U.S.C. §101, the Examiner suggested that

Independent Claim 9 be amended to recite "non-transitory" to exclude non-statutory subject

matter. Applicant notes that Claim 9 recites a "non-transitory computer readable storage medium"

having various program instructions (emphasis added). Accordingly, Applicant requests that this

rejection be withdrawn.

Claims 1, 5 and 9

Applicant hereby amends Claims 1, 5, and 9 to recite "said serial identification indicating

a time sequence of the media data elements." It is respectfully submitted that this clarifies the

serial identification language of each independent claim. Applicant submits that the art of record

does not teach or suggest the present invention, and that Independent Claims 1, 5, and 9 and their

dependent claims should be deemed allowable.

CONCLUSION

On the basis of the foregoing Remarks, Applicant respectfully submits that the pending

claims of the present application are allowable over the prior art of record. Favorable consideration

and timely allowance of this application are respectfully requested. Should the Examiner not

agree, then a telephonic interview is respectfully requested to discuss any remaining issues in an

effort to expedite the allowance of this application.

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Applicant authorizes the Commissioner to charge any additional fees and/or credit any

overpayments associated with this paper to Deposit Account No. 06-1448, Ref. No. 33986.00002.

Further, if a fee is required for an extension of time under 37 C.F.R. § 1.136 not provided for

above, Applicant requests such extension and authorizes the charging of the extension fee to

Deposit Account No. 06-1448, Ref. No. 33986.00002.

Dated: March 29, 2017

Respectfully submitted,

Ernest D. Buff (Reg. No. 25,833)

ERNEST D. BUFF AND ASSOCIATES, LLC. 231 SOMERVILLE ROAD BEDMINSTER NJ 07921

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| Electronic Acknowledgement Receipt | | | | | |
|--------------------------------------|---------------------------------|--|--|--|--|
| EFS ID: | 28769144 | | | | |
| Application Number: | 15283544 | | | | |
| International Application Number: | | | | | |
| Confirmation Number: | 5655 | | | | |
| Title of Invention: | STREAMING MEDIA DELIVERY SYSTEM | | | | |
| First Named Inventor/Applicant Name: | Harold Edward Price | | | | |
| Customer Number: | 25901 | | | | |
| Filer: | ERNEST D BUFF/Ernest Buff | | | | |
| Filer Authorized By: | ERNEST D BUFF | | | | |
| Attorney Docket Number: | 0021-49 CON4B | | | | |
| Receipt Date: | 29-MAR-2017 | | | | |
| Filing Date: | 03-OCT-2016 | | | | |
| Time Stamp: | 11:33:22 | | | | |
| Application Type: | Utility under 35 USC 111(a) | | | | |

Payment information:

| Submitted wi | th Payment | no | | | | | | | |
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| Document Number | Document Description | | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) | | | |
| | Amendment/Req. Reconsideration-After Non-Final Reject | | | 59387 | 59387 | | | | |
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| | Total Files Size (in bytes): | 59387 |

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New Applications Under 35 U.S.C. 111

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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.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014, OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE and to a collection of information unless it displays a collection.

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| \vdash | (37 CFR 1.16(k), (i), GEXAMINATION FE | | | | | | | + | |
| TOT | (37 CFR 1.16(o), (p), (| | N/A | | N/A | | N/A | | |
| (37 | CFR 1.16(i)) EPENDENT CLAIM | S | | ius 20 = * | | | X \$ = | | |
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| EN | Independent (37 CFR 1.16(h)) | * 3 | Minus | ***3 | = 0 | | × \$210 = | | 0 |
| AM | Application Size Fee (37 CFR 1.16(s)) | | | | | | | | |
| | FIRST PRESEN | NTATION OF MUI | TIPLE DEPEN | DENT CLAIM (37 CFF | R 1.16(j)) | | | | |
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| | | CLAIMS REMAINING AFTER AMENDMEN | | HIGHEST NUMBER PREVIOUSLY PAID FOR | PRESENT EX | TRA | RATE (\$) | A DDITK | ONAL FEE (\$) |
| ENT | Total (37 CFR 1.16(i)) | * | Minus | ** | = | | X \$ = | | |
| DM | Independent (37 CFR 1.16(h)) | * | Minus | *** | = | | X \$ = | | |
| MEN | Application Size Fee (37 CFR 1.16(s)) | | | | | | | | |
| AM | FIRST PRESEN | ITATION OF MUI | TIPLE DEPEN | DENT CLAIM (37 CFF | R 1.16(j)) | | | | |
| | | 4 | | | | _ | TOTAL ADD'L FE | E L | |
| ** If | the entry in column the "Highest Numbe f the "Highest Numb | er Previously P | aid For" IN Th | HIS SPACE is less | than 20, enter "20". | | SLIE MONIQUE BF | UNSON | |
| The | 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.

Docket No.: 0021-49 CON4B (PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: Harold Edward Price

Application No.: 15/283,544 Confirmation No.: 5655

Filed: October 3, 2016 Art Unit: 2454

For: STREAMING MEDIA DELIVERY SYSTEM

INFORMATION DISCLOSURE STATEMENT (IDS)

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

Dear Sir:

Pursuant to 37 C.F.R. § 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

In accordance with 37 C.F.R. § 1.98(a)(2)(ii), Applicant has not submitted copies of U.S. patents and U.S. patent applications. Applicant submits herewith copies of foreign patents and non-patent literature in accordance with 37 C.F.R. § 1.98(a)(2).

The following documents cited in the attached form PTO/SB/08 are not supplied because they were previously cited by or submitted to the Office at least in prior application number 13/815,040 filed January 25, 2013.

B4649580.1

Application No.: 15/283,544 2 Docket No.: 0021-49 CON4B

Non-Patent Literature Documents

Alexander Engman et al., "High Performance Video Streaming on Low End Systems," (Dec. 1, 1997), M. Sc. Thesis in Electrical D Engineering performed at Telia Research AB, Nattjanster Division, Stockholm.

Silvia Hollfelder et al., "Transparent Integration of Continuous Media Support into a Multimedia DBMS," (Dec. 1, 1997)D Arbeitspapiere der GMD, German National Research Center for Information Technology, No. 1104.

Jun Su, "Continuous Media Support for Multimedia Databases," (1999) Master of Science thesis from Queen's University, D Kingston, Ontario, Canada.

International Standard ISO/IEC 11172-1, "Information Technology-Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s-Part 1: Systems," (Aug. 1, 1993).

International Standard ISO/IEC 11172-2, "Information Technology-Coding of moving pictures and associated audio for storage media at up to about 1,5 Mbit/s-Part 2: Video," (Aug. 1, 1993).

International Standard ISO/IEC 11172-3, "Information Technology-Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s-Part 3: Audio," (Aug. 1, 1993).

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In accordance with 37 C.F.R. § 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 C.F.R. § 1.56(a) exists. In accordance with 37 C.F.R. § 1.97(h), the filing of this Information Disclosure Statement shall not be construed to be an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such.

It is submitted that the Information Disclosure Statement is in compliance with 37 C.F.R. § 1.98 and the Examiner is respectfully requested to consider the listed references.

Dated: February 21, 2017 Respectfully submitted,

Ernest D. Buff

Registration No.: 25,833

Ernest D. Buff & Associates, LLC. 231 Somerville Road Bedminster, NJ 07921 (908) 901-0220

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15283544 **Application Number** 2016-10-03 Filing Date INFORMATION DISCLOSURE First Named Inventor Harold Edward Price STATEMENT BY APPLICANT Art Unit 2454 (Not for submission under 37 CFR 1.99) **Examiner Name** MCLEOD, MARSHALL M 0021-49 CON4B Attorney Docket Number

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| Filing Date | | 2016-10-03 | |
| First Named Inventor | Harol | Edward Price | |
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| Examiner Name MCLE | | EOD, MARSHALL M | | |
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| Filing Date: | 03 | -Oct-2016 | | | | | |
| Title of Invention: | STI | REAMING MEDIA DE | ELIVERY SYSTEM | И | | | |
| First Named Inventor/Applicant Name: | На | rold Edward Price | | | | | |
| Filer: | ERNEST D BUFF/Ernest Buff | | | | | | |
| Attorney Docket Number: | 0021-49 CON4B | | | | | | |
| Filed as Small Entity | | | | | | | |
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| Application Number: | 15283544 |
| International Application Number: | |
| Confirmation Number: | 5655 |
| Title of Invention: | STREAMING MEDIA DELIVERY SYSTEM |
| First Named Inventor/Applicant Name: | Harold Edward Price |
| Customer Number: | 25901 |
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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

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New International Application Filed with the USPTO as a Receiving Office

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| Electronic Patent Application Fee Transmittal | | | | | | |
|---|--|------------------|----------------|--------|-------------------------|--|
| Application Number: | 15: | 283544 | | | | |
| Filing Date: | 03- | Oct-2016 | | | | |
| Title of Invention: | STI | REAMING MEDIA DE | ELIVERY SYSTEM | Л | | |
| First Named Inventor/Applicant Name: | Harold Edward Price | | | | | |
| Filer: | Erik Alexander Huestis/Juliette Ferrigno | | | | | |
| Attorney Docket Number: | 0021-49 CON4B | | | | | |
| Filed as Small Entity | | | | | | |
| Filing Fees for Utility under 35 USC 111(a) | | | | | | |
| Description | | Fee Code | Quantity | Amount | Sub-Total in USD(\$) | |
| Basic Filing: | | | | | | |
| Pages: | | | | | | |
| Claims: | | | | | | |
| Miscellaneous-Filing: | | | | | | |
| PROCESSING FEE, EXCEPT PROV. APPLS. | | 2830 | 1 | 70 | 70 | |
| Petition: | | | | | | |
| Patent-Appeals-and-Interference: | | | | | | |
| Post-Allowance-and-Post-Issuance: | | | | | | |

| Description | Fee Code | Quantity | Amount | Sub-Total in USD(\$) | |
|---|-----------------------|----------|--------|-------------------------|--|
| Extension-of-Time: | | | | | |
| Miscellaneous: | | | | | |
| SUBMISSION- INFORMATION DISCLOSURE STMT | 2806 | 1 | 90 | 90 | |
| | Total in USD (\$) 160 | | | | |

| Electronic Acl | knowledgement Receipt |
|--------------------------------------|--|
| EFS ID: | 28432699 |
| Application Number: | 15283544 |
| International Application Number: | |
| Confirmation Number: | 5655 |
| Title of Invention: | STREAMING MEDIA DELIVERY SYSTEM |
| First Named Inventor/Applicant Name: | Harold Edward Price |
| Customer Number: | 25901 |
| Filer: | Erik Alexander Huestis/Juliette Ferrigno |
| Filer Authorized By: | Erik Alexander Huestis |
| Attorney Docket Number: | 0021-49 CON4B |
| Receipt Date: | 22-FEB-2017 |
| Filing Date: | 03-OCT-2016 |
| Time Stamp: | 16:55:53 |
| Application Type: | Utility under 35 USC 111(a) |

Payment information:

| Submitted with Payment | yes |
|--|-----------------------------|
| Payment Type | DA |
| Payment was successfully received in RAM | \$160 |
| RAM confirmation Number | 022317INTEFSW00003989061448 |
| Deposit Account | 061448 |
| Authorized User | Juliette Ferrigno |

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37 CFR 1.16 (National application filing, search, and examination fees)

37 CFR 1.17 (Patent application and reexamination processing fees)

37 CFR 1.19 (Document supply fees)37 CFR 1.20 (Post Issuance fees)37 CFR 1.21 (Miscellaneous fees and charges)

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 | 32531 e4fac1cb4bbfcd2f9ce540ee1222ccaf9aea1 aae | no | 2 |

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Information:

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New Applications Under 35 U.S.C. 111

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

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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.



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APPLICATION NUMBER FILING OR 371(C) DATE FIRST NAMED APPLICANT ATTY. DOCKET NO./TITLE

15/283,544 10/03/2016 Harold Edward Price

0021-49 CON4B CONFIRMATION NO. 5655

PUBLICATION NOTICE

25901 ERNEST D. BUFF ERNEST D. BUFF AND ASSOCIATES, LLC. 231 SOMERVILLE ROAD BEDMINSTER, NJ 07921



Title:STREAMING MEDIA DELIVERY SYSTEM

Publication No.US-2017-0026434-A1 Publication Date: 01/26/2017

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 Office of Public Records. The Office of Public Records 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, Office of Public Records, 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 http://pair.uspto.gov/. 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 Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



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| APPLICATION NO. | FILING DATE | FILING DATE FIRST NAMED INVENTOR | | CONFIRMATION NO. | |
|-----------------------------|------------------------------|----------------------------------|--------------------|------------------|--|
| 15/283,544 | 10/03/2016 | Harold Edward Price | 0021-49 CON4B | 5655 | |
| 25901 ERNEST D. BU | 7590 12/29/201 UFF | 6 | EXAM | INER | |
| ERNEST D. BU 231 SOMERVI | JFF AND ASSOCIAT LLE ROAD | ES, LLC. | MCLEOD, MARSHALL M | | |
| BEDMINSTER | R, NJ 07921 | | ART UNIT | PAPER NUMBER | |
| | | | 2454 | | |
| | | | MAIL DATE | DELIVERY MODE | |
| | | | 12/29/2016 | PAPER | |

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.

| | Application No. 15/283,544 | Applicant(s | ROLD EDWARD | |
|--|---|---|--|--|
| Office Action Summary | Examiner MARSHALL MCLEOD | Art Unit 2454 | AIA (First Inventor to File) Status No | |
| The MAILING DATE of this communication app | ears on the cover sheet with t | he corresponder | nce address | |
| Period for Reply A SHORTENED STATUTORY PERIOD FOR REPLY THIS COMMUNICATION. - Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication. - If NO period for reply is specified above, the maximum statutory period w - Failure to reply within the set or extended period for reply will, by statute, Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b). | i6(a). In no event, however, may a reply lift apply and will expire SIX (6) MONTHS cause the application to become ABAND | pe timely filed from the mailing date of ONED (35 U.S.C. § 13 | of this communication. 33). | |
| Status | | | | |
| 1) Responsive to communication(s) filed on 10/03 A declaration(s)/affidavit(s) under 37 CFR 1.1 | | <u>.</u> | | |
| 2a) This action is FINAL . 2b) ☑ This | action is non-final. | | | |
| 3) An election was made by the applicant in responsible. the restriction requirement and election Since this application is in condition for allowant closed in accordance with the practice under E | have been incorporated into nce except for formal matters, | this action. prosecution as | to the merits is | |
| Disposition of Claims* | | | | |
| 5) Claim(s) 1-12 is/are pending in the application. 5a) Of the above claim(s) is/are withdraw 6) Claim(s) is/are allowed. 7) Claim(s) 1-12 is/are rejected. 8) Claim(s) is/are objected to. 9) Claim(s) are subject to restriction and/or fif any claims have been determined allowable, you may be eliparticipating intellectual property office for the corresponding aphttp://www.uspto.gov/patents/init_events/pph/index.jsp or send Application Papers 10) The specification is objected to by the Examiner 11) The drawing(s) filed on 10/03/2016 is/are: a) Applicant may not request that any objection to the Greplacement drawing sheet(s) including the correction is considered. | on from consideration. Telection requirement. Tigible to benefit from the Patent Toplication. For more information, an inquiry to PPHfeedback@usi T. I accepted or b) □ objected to drawing(s) be held in abeyance. | please see oto.gov. o by the Examin See 37 CFR 1.88 | er. 5(a). | |
| Priority under 35 U.S.C. § 119 12) 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)). * See the attached detailed Office action for a list of the certified copies not received. | | | | |
| | | | | |
| Attachment(s) 1) ☑ Notice of References Cited (PTO-892) | 3) 🔲 Interview Sumr | nary (PTO-413) | | |
| 2) ☑ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/S | Danar Na(a)/M | ail Date | | |

U.S. Patent and Trademark Office PTOL-326 (Rev. 11-13)

Office Action Summary

Part of Paper No./Mail Date 20161226

Art Unit: 2454

DETAILED ACTION

1. The present application is being examined under the pre-AIA first to invent provisions. Claims 1-12 are presented for examination in this application.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

- 3. Claim 9 is rejected under 35 U.S.C. 101 because the claimed invention is directed to nonstatutory subject matter. The claim is drawn to a "computer program product". The specification is silent regarding the meaning of this term. Thus, applying the broadest reasonable interpretation in light of the specification and taking into account the meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art (MPEP §2111), the claim as a whole covers both transitory and non-transitory media. A transitory medium does not fall into any of the 4 categories of invention (process, machine, manufacture, or composition of matter). As such, the examiner suggests that applicants amend the claim to incorporate the term "non-transitory" or appropriately clarify the claim.
- 4. Claims 10-12 are rejected for the same reasons as their parent claim 9 above, as claims 10-12 incorporate the limitations of their rejected parent claim 9.

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Claim Rejections - 35 USC § 103

5. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

- 6. The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 7. Claims 1-12 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Hooper et al. (Patent number US 5414455 A), hereinafter Hooper. In view of Omoigui (Patent number US 7237254 B1). In view of Tobias et al. (Patent number US 6981050 B1), hereinafter Tobias. In view of Hodgkinson et al. (Patent number US 7209437 B1), hereinafter Hodgkinson and further in view of Chen et al. (Patent number US 5822524 A), hereinafter Chen.
- 8. With respect to claim 1 Hooper discloses upon receipt of the stream by the server system, supplying, at the server system, media data elements representing the program (Column 4, lines 23-30), each media data element comprising a digitally encoded portion of the program and having a playback rate (Column 9, lines 53-56),

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serially identifying the media data elements (Column 6, lines 13-15), and storing the media data elements in a data structure under the control of the server system (Column 4, lines 23-27); each sending is at a transmission rate as fast as the data connection between the server system and each requesting user system allows (Column 5, lines 44-54; also see Column 7, lines 15-23); and all of the media data elements that are sent by the server system to the requesting user systems are sent from the data structure under the control of the server system as the media data elements were first stored therein (Column 8, lines 46-48).

Hooper does not explicitly disclose a method for distributing a live audio or video program over the Internet from a server system to a plurality of user systems, the method comprising: receiving at the server system a continuous digitally encoded stream for the audio or video program, via a data connection from a live source, in real time, the server system comprising at least one computer; receiving requests at the server system via one or more data connections over the Internet, for one or more of the media data elements stored in the data structure, each received request specifying one or more serial identifiers of the requested one or more media data elements, each received request originating from a requesting user system of a plurality of user systems; and responsive to the requests, sending, by the server system, the one or more media data elements having the one or more specified serial identifiers, to the requesting user systems corresponding to the requests; wherein the data connection between the server system and each requesting user system has a data rate more rapid

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than the playback rate of the one or more media data elements sent via that connection; the one or more media data elements sent are selected without depending on the server system maintaining a record of the last media data element sent to the requesting user systems.

However, Omoigui discloses receiving requests at the server system via one or more data connections over the Internet, for one or more of the media data elements stored in the data structure, each received request specifying one or more serial identifiers of the requested one or more media data elements, each received request originating from a requesting user system of a plurality of user systems (Column 9, lines 36-38); and responsive to the requests, sending, by the server system, the one or more media data elements having the one or more specified serial identifiers, to the requesting user systems corresponding to the requests (Column 9, lines 38-43); all of the media data elements that are sent by the server system to the plurality of user systems are sent in response to the requests (Column 3, lines 37-41).

It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the teachings of Hooper with the teachings of Omoigui. By modifying the system for delivering videos (Hooper; Column 1, lines 64-65) with the media streaming system in Omoigui which allows a user to seamlessly switch playback speeds (Omoigui; Column 2, lines 15-20). In order to reduce delays and breaks when

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switching between different playback speeds of time-scale modified streams (Omoigui;

Column 2, lines 7-9).

The combined teachings of Hooper and Omoigui does not explicitly disclose a method

for distributing a live audio or video program over the Internet from a server system to a

plurality of user systems, the method comprising: receiving at the server system a

continuous digitally encoded stream for the audio or video program, via a data

connection from a live source, in real time, the server system comprising at least one

computer; wherein the data connection between the server system and each requesting

user system has a data rate more rapid than the playback rate of the one or more media

data elements sent via that connection; the one or more media data elements sent are

selected without depending on the server system maintaining a record of the last media

data element sent to the requesting user systems.

However, Tobias discloses a method for distributing a live audio or video program over

the Internet from a server system to a plurality of user systems, the method comprising:

receiving at the server system a continuous digitally encoded stream for the audio or

video program, via a data connection from a live source, in real time, the server system

comprising at least one computer (Column 3, lines 38-46).

It would have been obvious to a person having ordinary skill in the art at the time of the

invention to modify the combined teachings of Hooper and Omoigui with the teachings

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of Tobias. By modifying the system for delivering videos (Hooper; Column 1, lines 64-65) with the mechanism for automatically recording and publishing traditional media source programs in streaming format (Tobias; Column 1, lines 30-32). In order to provide a mechanism for automatically recording and publishing traditional media source programs to a wider audience than is practical using conventional media dissemination techniques (Tobias; Column 1, lines 63-67).

The combined teachings of Hooper, Omoigui and Tobias does not explicitly disclose wherein the data connection between the server system and each requesting user system has a data rate more rapid than the playback rate of the one or more media data elements sent via that connection; the one or more media data elements sent are selected without depending on the server system maintaining a record of the last media data element sent to the requesting user systems.

However, Hodgkinson discloses wherein the data connection between the server system and each requesting user system has a data rate more rapid than the playback rate of the one or more media data elements sent via that connection (Column 8, lines 18-26).

It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the combined teachings of Hooper, Omoigui and Tobias with the teachings of Hodgkinson. By modifying the system for delivering videos (Hooper;

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Column 1, lines 64-65) with a streaming system that provides a client/user at least one high quality communications link 50 between the server computer 10 and the client computer 20. The high quality communications links 50 provide a guaranteed quality of service for the transmission between the server computer and the client computer i.e. they provide a high class of QoS. The communications network additionally comprises at least one low quality communications link 60 between the server computer 10 and the client computer 20. The lower-quality communications links may provide either a guaranteed quality of service, at a lower QoS level than a high quality communications link, or transmit date on a "best effort" basis, i.e. they provide a low class of QoS (Hodgkinson; Column 8, lines 4-17). In order to attain the quality of service that is provided by connection-based transmission methods, without the additional cost that is incurred by setting up a connection (Hodgkinson; Column 1, lines 52-55).

The combined teachings of Hooper, Omoigui, Tobias and Hodgkinson does not explicitly disclose the one or more media data elements sent are selected without depending on the server system maintaining a record of the last media data element sent to the requesting user systems.

However, Chen discloses the one or more media data elements sent are selected without depending on the server system maintaining a record of the last media data element sent to the requesting user systems (Column 7, lines 24-27).

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It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the combined teachings of Hooper, Omoigui, Tobias and Hodgkinson with the teachings of Chen. By modifying the system for delivering videos (Hooper; Column 1, lines 64-65) with a system providing just-in-time retrieval of the compressed video file and its transmission in data packets from the server computer to the client computer (Chen; Claim 33). In order to provide a method for a client machine to retrieve multimedia data from a server machine with minimum latency and overhead (Chen; Column 3, lines 41-43).

- 9. With respect to claims 2, 6 and 10 the combined teachings of Hooper, Omoigui, Tobias, Hodgkinson and Chen discloses wherein the serial identifiers are sequential (Chen; Claim 20, which states in part "...sequentially assigned packet sequence number...").
- 10. With respect to claims 3, 7 and 11 the combined teachings of Hooper, Omoigui, Tobias, Hodgkinson and Chen discloses wherein the sending is via a reliable transmission protocol (Hodgkinson; Column 6, lines 26-29).
- 11. With respect to claims 4, 8 and 12 the combined teachings of Hooper, Omoigui, Tobias, Hodgkinson and Chen discloses wherein the reliable transmission protocol is TCP (Hodgkinson; Column 6, lines 26-29).

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12. With respect to claim 5 the claim is rejected for the same reasons as claim 1 above as it recites substantially similar limitations. Claim 5 However, recite the additional limitations of, a server system for distributing a live audio or video program over the Internet to a plurality of user systems (Tobias; Column 3, lines 38-46), the server system comprising: at least one computer having a connection to the Internet (Tobias; Column 3, lines 30-31). Furthermore, the motivation to combine the references is the same as that which is given for combining the references in claim 1 above.

13. With respect to claim 9 the claim is rejected for the same reasons as claim 1 above as it recites substantially similar limitations. Claim 9 However, recite the additional limitations of, computer program product for distributing a live audio or video program over the Internet from a server system comprising at least one computer to a plurality of user systems, the computer program product comprising a non-transitory computer readable storage medium having program instructions embodied therewith, the program instructions comprising (Tobias; Column 7, lines 1-19). Furthermore, the motivation to combine the references is the same as that which is given for combining the references in claim 1 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARSHALL MCLEOD whose telephone number is

Art Unit: 2454

(571)270-3808. The examiner can normally be reached on Monday - Thursday 6:30

a.m-4:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, JOSEPH AVELLINO can be reached on (571) 272-3905. 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

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/MARSHALL MCLEOD/ Examiner, Art Unit 2454

12/23/2016

Application/Control No. Applicant(s)/Patent Under Reexamination 15/283,544 PRICE, HAROLD EDWARD Notice of References Cited Art Unit Examiner Page 1 of 1 MARSHALL MCLEOD 2454

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*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).) Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

U.S. Patent and Trademark Office PTO-892 (Rev. 01-2001)

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Part of Paper No. 20161226

Receipt date: 11/20/2016

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| | COUNTY OF THE PARTY OF | | | Application Number | 15/283,544 | |
| INF | ORMATION | DI: | SCLOSURE | Filing Date | 10/03/2016 | |
| ST | ATEMENT E | Y A | APPLICANT | First Named Inventor | Harold Edward Price | |
| | | | | Art Unit | 2447 | |
| | (Use as many sheets as necessary) | | | Examiner Name | N/A | |
| Sheat | 1 | of | | ¥ * | 0021-49-CON4B | |

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /M.M.M/

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| | 3. | EP-0680185 | 11-02-1995 | Joseph | | | |
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| | 10. | EP-0984584-A1 | 03-08-2000 | Lippert | · | · | |
| *************************************** | 11. | EP-1113642 | 07-04-2004 | Ullman | | 1 | |
| | 12. | EP-1395005 | 03-03-2004 | Danneel | | 1 | |
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| | 15. | EP-1437866 | 07-14-2004 | Muniere | | | |
| | 16. | EP-1487147 | 12-06-2006 | Rong | | + | |
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| | 23. | JP-20-00228669 | 08-15-2000 | Shihoko | , | | |
| | 24. | JP-20-03163916 | 06-06-2003 | Masao | | 1 | |
| | 25. | JP-H09298734 | 11-18-1997 | Kenji | <u></u> | + | |
| | 26. | JP-H10108157 | 04-24-1998 | katsuhiko | | | |
| | 27. | JP-H10336626 | 12-18-1998 | Hiroshi | | † | |
| | 28. | JP-H11184780 | 07-09-1999 | Takeshi | | 1 | |
| | 29. | JP-H11187367 | 07-09-1999 | Yasuyuki | | 1 | |
| | 30. | JP-H11295589 | 10-29-1999 | Masaru | | 1 | |
| | 31. | KR-100244854 | 02-15-2000 | Bae-Kun | | | |

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| | | | | Application Number | 15/283,544 | |
| INF | ORMATION | DI | SCLOSURE | Filing Date | 10/03/2016 | |
| ST | ATEMENT E | Y A | NPPLICANT | First Named Inventor | Harold Edward Price | |
| | | | | Art Unit | 2447 | |
| | (Use as many she | ets as | necessary) | Examiner Name | N/A | |
| Sheet | 2 | of | 3 | Attorney Docket Number | 0021-49-CON4B | |

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| | 38. | WO-1997022201 | 06-19-1997 | Campbell | * |
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| | Examiner | Date | | - |
|---|-------------------------------|--|---|----|
| ì | Signature /MARSHALL M MCLEOD/ | Considered | 12/26/2016 | į |
| | <u>.</u> | Accounterent contract | *************************************** | ģ. |

[&]quot;EXAMINER" Initial if reference considered, whether or not citation is in conformance with MPEP 609. Craw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

^{*}Applicant's unique citation designation number (optional), *Applicant is to place a check mark here if English language Translation is attached.

Receipt date: 11/20/2016

| Substitute for form 1449/PTO | | Complete if Known | | | |
|------------------------------|--|-------------------|------------|------------------------|---------------------|
| | Substitution (State Visit Visi | | | Application Number | 15/283,544 |
| INF | FORMATION | DIS | SCLOSURE | Filing Date | 10/03/2016 |
| ST | ATEMENT E | 3Y A | \PPLICANT | First Named Inventor | Harold Edward Price |
| | | | | Art Unit | 2447 |
| | (Use as many she | eets as | necessary) | Examiner Name | N/A |
| Sheet | 3 | of | 3 | Attorney Docket Number | 0021-49-CON4B |

| | CERTIFI | CATION STATEMENT | | | | | |
|--|--|-------------------------|------------|--|--|--|--|
| Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s): | | | | | | | |
| from a fore | That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1). | | | | | | |
| OR | | | | | | | |
| foreign pat after makin any individu | That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2). | | | | | | |
| See attach | ed certification statement. | | | | | | |
| The fee set | t forth in 37 CFR 1.17 (p) has been submit | ted herewith. | | | | | |
| A certificati | on statement is not submitted herewith. | | | | | | |
| SIGNATURE A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature. | | | | | | | |
| Signature | /Ernest D. Buff/ | Date (YYYY-MM DD) | 2016-11-13 | | | | |
| Name/Print | Ernest D. Buff | Registratio No | 25,833 | | | | |
| | of information is required by 37 CFR 1.97 | | | | | | |

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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.**

| Subst | Substitute for form 1449/PTO | | *************************************** | Complete if Known | |
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| | | | | Application Number | 15/283,544 |
| IN | INFORMATION DISCLOSURE STATEMENT BY APPLICANT | | | Filing Date | 10/03/2016 |
| S | | | | First Named Inventor | Harold Edward Price |
| | | | | Art Unit | 2447 |
| | (Use as many sheets as necessary) | | | Examiner Name | N/A |
| Sheet | 1 | of | 3 | Attomey Docket Number | 0021-49-CON4B |

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /M.M.M/

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| Examiner Initials* | Cife No.3 | Foreign Patent Occument Country Code ² Number ² -Kind Code ⁵ | Publication Date MM-DD-YYYY | Name of Patenties or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | r ^s |
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| | | | | Application Number | 15/283,544 | |
| INF | ORMATION | V DIS | SCLOSURE | Filing Date | 10/03/2016 | |
| ST | STATEMENT BY APPLICANT (Use as many sheets as necessary) | | | First Named Inventor | Harold Edward Price | |
| | | | | Art Unit | 2447 | |
| | | | | Examiner Name | N/A | |
| Sheet | Sheet 2 of 3 | | Attorney Docket Number | 0021-49-CON4B | | |

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| 43. | WO-199849634 | 11-05-1998 | Delph | | |
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| 54. | WO-2005004485-A1 | 01-13-2005 | Gentric | | |

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| Fyaminar | Date | | Ė |
| /MARSHALL M MCLEOD/ | 1.31200 | 19/96/9016 | į. |
| (Signature) / MARGINALLI M MCLINOD/ | Considered | 12/20/2010 | Ĺ |

[&]quot;EXAMINER: Initial if reference considered, whether or not chalon is in conformance with MPEP 609. Craw line through chalon if not in conformance and not considered, Include copy of this form with next communication to applicant.

^{*}Applicant's unique citation designation number (optional). *Applicant is to place a check mark here if English language Translation is attached.

| Substitu | Substitute for form 1449/PTO | | | Complete if Known | | |
|------------------------|-----------------------------------|------------------------|---------------|----------------------|---------------------|--|
| | | | | Application Number | 15/283,544 | |
| INFORMATION DISCLOSURE | | | | Filing Date | 10/03/2016 | |
| ST | STATEMENT BY APPLICANT | | | First Named Inventor | Harold Edward Price | |
| | | | | Art Unit | 2447 | |
| | (Use as many sheets as necessary) | | | Examiner Name | N/A | |
| Sheet 3 of 3 | | Attorney Docket Number | 0021-49-CON4B | | | |

| | CERTIFI | CATION STATEMENT | | | | |
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| Please see 37 (| CFR 1.97 and 1.98 to make the appropriate | e selection(s): | | | | |
| from a fore | That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1). | | | | | |
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| foreign pat after makin any individu | em of information contained in the information of information contained in the information of information of information designated in 37 CFR 1.56(c) more to See 37 CFR 1.97(e)(2). | ation and, to the knowledge of on contained in the information | the person signing the certification disclosure statement was known to | | | |
| See attach | ed certification statement. | | | | | |
| The fee set | t forth in 37 CFR 1.17 (p) has been submit | ted herewith. | | | | |
| A certificati | on statement is not submitted herewith. | | | | | |
| A signature of the sign | he applicant or representative is required i | IGNATURE n accordance with CFR 1.33, 10 | 0.18. Please see CFR 1.4(d) for the | | | |
| Signature | /Ernest D. Buff/ | Date (YYYY-MM DD) | 2016-11-13 | | | |
| Name/Print | Ernest D. Buff | Registratio No | 25,833 | | | |
| | of information is required by 37 CFR 1.97 | | | | | |

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Search Notes

| Application/Control No. | Applicant(s)/Patent Under Reexamination |
|-------------------------|---|
| 15283544 | PRICE, HAROLD EDWARD |
| Examiner | Art Unit |
| MARSHALL MCLEOD | 2454 |

| CPC- SEARCHED | | |
|---------------|------------|----------|
| Symbol | Date | Examiner |
| H04L65 | 12/23/2016 | MM |
| H04L49 | 12/23/2016 | MM |

| CPC COMBINATION SETS - SEARCHED | | | | | |
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| Symbol Date Examiner | | | | | |
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| Class | Subclass | Date | Examiner |
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| SEARCH NOT | ES | |
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| Search Notes | Date | Examiner |
| EAST search history attached | 12/23/2016 | MM |
| Searched class 709 with text | 12/23/2016 | MM |
| Searched CPC with text | 12/23/2016 | MM |
| Searched GOOGLE with text | 12/23/2016 | MM |

| | INTERFERENCE SEARCH | | |
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| US Class/ CPC Symbol | US Subclass / CPC Group | Date | Examiner |
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U.S. Patent and Trademark Office Part of Paper No. : 20161226

| | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|-----------------|-------------------------|---|
| Index of Claims | 15283544 | PRICE, HAROLD EDWARD |
| | Examiner | Art Unit |
| | MARSHALL MCLEOD | 2454 |

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| = | Allowed | ÷ | Restricted | | I | Interference | 0 | Objected |
| ☐ Claims renumbered in the same order as presented by applicant | | | | | | |] T.C |). |
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EAST Search History

EAST Search History (Prior Art)

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|----------|------|--|--|---------------------|---------|---------------------|
| L1 | 4 | ("7209437").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/12/26 18:19 |
| L2 | 2 | ("7237254").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/12/26 18:20 |
| L3 | 2 | ("6981050").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/12/26 18:20 |
| L4 | 4 | ("5414455").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/12/26 18:20 |
| L5 | 4 | ("5822524").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2016/12/26 18:21 |
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| L10 | 33 | "709".clas. and stream\$3 near media near player and sequential near order and identif\$5 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2016/12/26 18:24 |
| L11 | 27 | 10 AND ((H04L67/104 OR H04L65/4084 OR H04L67/06 OR H04L67/10 OR H04L67/108 OR H04L65/403 OR H04L67/1078 OR H04L65/403 OR H04L67/1063 OR H04L67/322 OR H04L67/327 OR H04L67/322 OR H04L67/327 OR H04L67/32 OR H04L67/32 OR H04L12/2697 OR H04L41/12 OR H04L43/50 OR H04L67/02 OR H04L67/04 OR H04L67/1046 OR H04L67/12 OR H04L67/12 OR H04L67/2852 OR H04L67/325 OR H04L69/329 OR H04L209/60 OR H04L209/80 OR H04L29/06523 OR H04L29/06489 OR H04L47/34 OR H04L63/0823 OR H04L63/0823 OR H04L63/083 OR H04L63/0823 OR H04L63/083 OR H04L65/104 OR H04L65/1069 OR H04L65/1040 OR | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | ON | 2016/12/26 18:24 |

| | | H04L67/101 OR H04L67/1053 OR H04L67/1072 OR H04L67/1085 OR H04L67/125 OR H04L67/18 OR H04L67/2804 OR H04L67/2814 OR H04L67/32 OR H04L69/08 OR H04L69/14 OR H04L69/22 OR H04L9/083 OR H04L9/3247 OR H04L9/3263 OR G06F17/30053 OR G06F17/30038 OR G06F17/30772 OR G06F17/30752 OR G06F17/30772 OR G06F17/30867 OR G06F221/10 OR G06F21/00 OR G06F2221/2110 OR G06F2221/2107 OR G06F2221/2111 OR G06F2221/2115 OR G06F2221/2119 OR G06F2221/2141 OR G06F2221/2145 OR G06F9/541).CPC.) | | | | |
|------------|----|--|--|----|-----|---------------------|
| L12 | 6 | "709".clas. and playback and bit near rate and slow\$3 with buffer with stream\$3 near media and size and speed and fast\$3 and video and variab\$5 and smooth\$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2016/12/26 18:24 |
| L13 | 5 | 12 AND ((H04L29/06027 OR H04L47/12 OR H04L65/4069 OR H04L65/4076 OR H04L65/4092 OR H04L65/602 OR H04L65/607).CPC.) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2016/12/26 18:24 |
| L14 | 17 | stream\$3 near media near player and sequential near order and specif\$4 near identif\$5 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2016/12/26 18:25 |
| L15 | 13 | 14 AND ((H04L65/4084 OR H04L67/06 OR H04L67/42 OR H04L65/403 OR H04L67/04 OR H04L67/12 OR H04L67/322 OR H04L65/60 OR H04L67/10 OR H04L67/02 OR H04L67/125 OR H04L67/2842 OR H04L67/306).CPC.) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2016/12/26 18:25 |
| S1 | 21 | "709".clas. and stream\$3 near media and underflow and playback and encode and rate and buffer | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:30 |
| S2 | 2 | ("7237254").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2011/07/25 06:30 |
| S 3 | 12 | playback with rate with slower with buffer with stream\$3 with media | US-PGPUB; USPAT; USOCR; FPRS; | OR | ON | 2011/07/25 06:31 |

| | | | EPO; JPO; DERWENT; IBM_TDB | | | |
|------------|-----|--|--|----|----|---------------------|
| S4 | 13 | playback and rate with slower with buffer with stream\$3 with media | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:31 |
| S5 | 332 | playback and rate and slower and buffer and stream\$3 near media and encode | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:32 |
| S6 | 294 | playback and rate and slower and buffer and stream\$3 near media and encode and bit | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:32 |
| S7 | 481 | playback and rate and slower and buffer and stream\$3 near media and encod\$3 and bit | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:32 |
| S 8 | 239 | playback and rate and slower and buffer and stream\$3 near media and encod\$3 and bit and pointer | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:32 |
| 59 | 184 | playback and rate and slower and buffer and stream\$3 near media and encod\$3 and bit and pointer and player | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:33 |
| S10 | 182 | playback and rate and slower and buffer and stream\$3 near media and encod\$3 and bit and pointer and player and audio and video | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:33 |
| S11 | 182 | playback and rate and slower and buffer and stream\$3 near media and encod\$3 and bit and pointer and player and audio and video and user | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:33 |
| S12 | 107 | playback and rate and slower and buffer and stream\$3 near media and encod\$3 | US-PGPUB; USPAT; | OR | ON | 2011/07/25 06:33 |

| | | and bit and pointer and player and audio and video and user and tcp | USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | |
|-----|-----|---|--|----|-----|---------------------|
| S13 | 106 | playback and rate and slower and buffer and stream\$3 near media and encod\$3 and bit and pointer and player and audio and video and user and tcp and digital | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:33 |
| S14 | 0 | playback and rate and slower and buffer and stream\$3 near media and encod\$3 and bit and pointer and player and audio and video and user and tcp and digital and liver | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:33 |
| S15 | 98 | playback and rate and slower and buffer and stream\$3 near media and encod\$3 and bit and pointer and player and audio and video and user and tcp and digital and live | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:33 |
| S16 | 98 | playback and rate and slower and buffer and stream\$3 near media and encod\$3 and bit and pointer and player and audio and video and user and tcp and digital and live and file | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:33 |
| S17 | 2 | ("6766376").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2011/07/25 06:34 |
| S18 | 2 | ("5928330").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2011/07/25 06:34 |
| S19 | 0 | streamS3 near media with buffer with download | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:35 |
| S20 | O | streamS3 near media with download with (data elements media) with [aster and playback | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:35 |

| | : | | | | | |
|-----|-----|---|--|----|-----|---------------------|
| | 0 | streamS3 near media with download with (data elements media) with faster and playback | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | ON | 2011/07/25 06:35 |
| S22 | 0 | streamS3 near media with underflow and playback | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:36 |
| S23 | 179 | stream\$3 near media and underflow and playback and encode and rate and buffer | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:37 |
| S24 | 29 | stream\$3 near media and underflow and playback and encode and rate and buffer and download | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:37 |
| S25 | 8 | stream\$3 near media and underflow and playback and encode and rate and buffer and download and faster and slower | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:38 |
| S26 | 2 | ("6637031").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2011/07/25 06:38 |
| S27 | 2 | ("6728753").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2011/07/25 06:38 |
| S28 | 6 | stream\$3 near media near player and playback with sequential near order | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:39 |
| S29 | 44 | stream\$3 near media near player and sequential near order | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; | OR | ON | 2011/07/25 06:39 |

| | | | DERWENT; IBM_TDB | | | |
|-----|----|--|--|----|----|---------------------|
| S30 | 42 | stream\$3 near media near player and sequential near order and identif\$5 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:40 |
| S31 | 42 | stream\$3 near media near player and sequential near order and identif\$5 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:40 |
| S32 | 1 | stream\$3 near media near player and sequential near identif\$5 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:40 |
| S33 | 13 | stream\$3 near media near player and assign near identif\$5 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:40 |
| S34 | 12 | stream\$3 near media near player and assign near identif\$5 and client | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:41 |
| S35 | 3 | stream\$3 near media near player and assign near identif\$5 and client and playlist | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:41 |
| S36 | 65 | stream\$3 near media near player and assign and (identif\$5 label assign tag)and client and playlist and media | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:42 |
| S37 | 0 | "200100047377" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:42 |
| S38 | 2 | "20010047377" | US-PGPUB; USPAT; USOCR; | OR | ON | 2011/07/25 06:42 |

| | | | FPRS; EPO; JPO; DERWENT; IBM_TDB | | | |
|------|----|--|--|----|----|---------------------|
| S39 | 2 | "20100235536" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:43 |
| S40 | 0 | stream\$3 near media near player and sequential near order and serial near identif\$5 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:44 |
| S41 | 0 | stream\$3 near media near player and sequential near order and serial near identif\$5 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:44 |
| S42 | 5 | stream\$3 near media near player and sequential near order and serial with identif\$5 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:44 |
| \$45 | 2 | 709/230.ccls. and stream\$3 near media near player and sequential near order and identif\$5 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:47 |
| S46 | 8 | 709/231.ccls. and stream\$3 near media near player and sequential near order and identif\$5 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:47 |
| S47 | 1 | "12800152".rlan. or ("12".src. and "800152".ap.) | US-PGPUB; USPAT; USOCR; DERWENT | OR | ON | 2011/07/25 06:55 |
| S49 | 10 | "709".clas. and stream\$3 near media and playback and encode and rate and buffer and serial near (number identif\$5 tag) with (data element media audio video file) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:59 |
| S50 | 0 | 709/230.ccls. and stream\$3 near media and playback and encode and rate and buffer and serial near (number identif\$5 tag) with (data element media audio video | US-PGPUB; USPAT; USOCR; FPRS; | OR | ON | 2011/07/25 06:59 |

| | | file) | EPO; JPO; DERWENT; IBM_TDB | | | |
|-----|----|---|--|----|----|---------------------|
| S51 | 2 | 709/231.ccls. and stream\$3 near media and playback and encode and rate and buffer and serial near (number identif\$5 tag) with (data element media audio video file) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 06:59 |
| S52 | 2 | 709/217.ccls. and stream\$3 near media and playback and encode and rate and buffer and serial near (number identif\$5 tag) with (data element media audio video file) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 07:29 |
| S53 | 0 | 709/218.ccls. and stream\$3 near media and playback and encode and rate and buffer and serial near (number identif\$5 tag) with (data element media audio video file) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 07:29 |
| S54 | 0 | 709/219.ccls. and stream\$3 near media and playback and encode and rate and buffer and serial near (number identif\$5 tag) with (data element media audio video file) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/07/25 07:29 |
| S68 | 29 | ("6292834" "6588015" "6594699" "6598228" "6665751" "6708213" "6829368" "6889257" "6907481" "7054500" "7111058" "7170856" "7346698" "7373413").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 21:49 |
| S69 | 14 | playback and rate with slower with buffer with stream\$3 near media and size | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:04 |
| S70 | 13 | playback and rate with slower with buffer with stream\$3 near media and size and speed | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:04 |
| S71 | 22 | playback and rate and slow\$3 with buffer with stream\$3 near media and size and speed and fast\$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:05 |
| S72 | 16 | playback and bit near rate and slow\$3 with buffer with stream\$3 near media and size | | OR | ON | 2011/11/30 22:05 |

| | | and speed and fast\$3 | USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | | |
|-----|----|--|--|----|----|---------------------|
| S73 | 16 | playback and bit near rate and slow\$3 with buffer with stream\$3 near media and size and speed and fast\$3 and video | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:05 |
| S74 | 16 | playback and bit near rate and slow\$3 with buffer with stream\$3 near media and size and speed and fast\$3 and video and variab\$5 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:06 |
| S75 | 14 | playback and bit near rate and slow\$3 with buffer with stream\$3 near media and size and speed and fast\$3 and video and variab\$5 and smooth\$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:06 |
| S77 | 0 | 709/217.ccls. and playback and bit near rate and slow\$3 with buffer with stream\$3 near media and size and speed and fast\$3 and video and variab\$5 and smooth\$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:07 |
| S78 | 0 | 709/217.ccls. and playback and rate and slow\$3 with buffer with stream\$3 near media and size and speed and fast\$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:08 |
| S79 | 1 | 709/217.ccls. and playback and rate with slower with buffer with stream\$3 near media and size | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:08 |
| S80 | 0 | 709/218.ccls. and playback and rate with slower with buffer with stream\$3 near media and size | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:08 |
| S81 | 0 | 709/219.ccls. and playback and rate with slower with buffer with stream\$3 near media and size | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:08 |

| | 0 | 709/218.ccls. and playback and bit near rate and slow\$3 with buffer with stream\$3 near media and size and speed and fast\$3 and video and variab\$5 and smooth\$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | | ON | 2011/11/30 22:08 |
|-----|---|--|--|----|----|---------------------|
| S83 | 0 | 709/219.ccls. and playback and bit near rate and slow\$3 with buffer with stream\$3 near media and size and speed and fast\$3 and video and variab\$5 and smooth\$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:09 |
| S84 | О | 709/230.ccls. and playback and rate with slower with buffer with stream\$3 near media and size | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:11 |
| S85 | 3 | 709/231.ccls. and playback and rate with slower with buffer with stream\$3 near media and size | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:11 |
| S86 | 0 | 709/230.ccls. and playback and bit near rate and slow\$3 with buffer with stream\$3 near media and size and speed and fast\$3 and video and variab\$5 and smooth\$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:12 |
| S87 | 4 | 709/231.ccls. and playback and bit near rate and slow\$3 with buffer with stream\$3 near media and size and speed and fast\$3 and video and variab\$5 and smooth\$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:12 |
| S88 | 7 | 709/219.ccls. and playback and bit near rate and buffer with stream\$3 near media and size and speed and video and variab\$5 and smooth\$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:13 |
| S89 | 2 | 709/217.ccls. and playback and bit near rate and buffer with stream\$3 near media and size and speed and video and variab\$5 and smooth\$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2011/11/30 22:13 |
| S90 | 0 | 709/218.ccls. and playback and bit near rate and buffer with stream\$3 near media and size and speed and video and variab\$5 and smooth\$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; | OR | ON | 2011/11/30 22:13 |

| | | DERWENT; IBM_TDB | | | |
|----------|--|--|----|----|---------------------|
| S105 53 | ("4963995" "5057932" "5164839" "5262875" "5440334" "5481543" "5710970" "5719786" "5734119" "5737536" "5809239" "5815662" "5910876" "5963202" "5978567" "5995705" "6047356" "6173340" "6233226" "6279040" "6321269" "6405256" "6449719" "6831892" "6850965" "7272298" "7334044").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2012/02/13 06:39 |
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| S118 | 3 | ("20020052967").PN. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2015/07/09 13:25 |
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| | | S126 AND ((H04H60/80 OR | | | | |

| | | H04N21/4402 OI H04N21/47202 (H04N21/632 OR | OR H04N | 121/47217 O | R | | | | |
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| ST. | ATEMENT B | Y A | \PPLICANT | First Named Inventor | Harold Edward Price | | |
| | | | | Art Unit | 2447 | | |
| | (Use as many she | ets as | necessary) | Examiner Name | N/A | | |
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| | CERTIFICATION | STATEMENT | |
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| Please see 37 CFR 1 | 1.97 and 1.98 to make the appropriate selecti | ion(s): | |
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| foreign patent of after making rea any individual di | f information contained in the information of infice in a counterpart foreign application as asonable inquiry, no item of information contresignated in 37 CFR 1.56(c) more than threat 37 CFR 1.97(e)(2). | nd, to the knowledge of that in the information dis | ne person signing the certification sclosure statement was known to |
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| A certification st | atement is not submitted herewith. | | |
| A signature of the ap | SIGNATI oplicant or representative is required in accord | | 8. Please see CFR 1.4(d) for the |
| Signature | /Ernest D. Buff/ | Date (YYYY-MM- DD) | 2016-11-13 |
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Attorney Cocket DECLARATION FOR UTILITY OR 0021-49 CON48 Number DESIGN First Named Inventor Harold Edward Price PATENT APPLICATION COMPLETE IF KNOWN (37 CFR 1.63) Application Number 15/283,544 Declaration Declaration Submitted After Initial Filling (surcharge (37 CFR 1.16(ft)) Filing Date 10/3/2016 Submitted OB With India: Art Unit 2447 Pines required)

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| This declaration is directed to: | | | | |
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| Application Number: | 15283544 | | | | | | | |
| Filing Date: | 03-Oct-2016 | | | | | | | |
| Title of Invention: | STREAMING MEDIA DELIVERY SYSTEM | | | | | | | |
| First Named Inventor/Applicant Name: | На | rold Edward Price | | | | | | |
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| Attorney Docket Number: | 00 | 21-49 CON4B | | | | | | |
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| Electronic Ack | knowledgement Receipt |
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| Confirmation Number: | 5655 |
| Title of Invention: | STREAMING MEDIA DELIVERY SYSTEM |
| First Named Inventor/Applicant Name: | Harold Edward Price |
| Customer Number: | 25901 |
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| Receipt Date: | 22-NOV-2016 |
| Filing Date: | 03-OCT-2016 |
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New Applications Under 35 U.S.C. 111

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| | | | | | Art Unit | 2447 | |
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 15/283,544

 Filing Date
 10/03/2016

 First Named Inventor
 Harold Edward Price

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| | | | | Application Number | 15/283,544 |
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| ST | ATEMENT I | 3Y A | \PPLICANT | First Named Inventor | Harold Edward Price |
| | | | | Art Unit | 2447 |
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| ST | | | | | First Named Inventor | Harold Edward Price |
| | | | | | Art Unit | 2447 |
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^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Drawline through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ³ Applicant is to place a check mark here if English language Translation is attached.

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| ST. | ATEMENT E | BY A | \PPLICANT | First Named Inventor | Harold Edward Price | |
| | | | | Art Unit | 2447 | |
| | (Use as many sheets as necessary) | | | Examiner Name | N/A | |
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| | CERTIFICATION STATEM | ENT | | | | | |
|---|--|---------------------|--------|--|--|--|--|
| Please see 37 CFR | 1.97 and 1.98 to make the appropriate selection(s): | | | | | | |
| That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filling of the information disclosure statement. See 37 CFR 1.97(e)(1). | | | | | | | |
| OR | | | | | | | |
| That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2). | | | | | | | |
| See attached c | ertification statement. | | | | | | |
| The fee set fort | h in 37 CFR 1.17 (p) has been submitted herewith. | | | | | | |
| A certification s | tatement is not submitted herewith. | | | | | | |
| SIGNATURE A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature. | | | | | | | |
| /Ernest D. Buff/ ignature Date (YYYY-MM-DD) | | | | | | | |
| Name/Print | Ernest D. Buff | Registration No. | 25,833 | | | | |
| | nformation is required by 37 CFR 1.97 and 1.98. The info | | | | | | |

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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.**

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| ST | ATEMENT E | 3Y / | \PPLICANT | First Named Inventor | Harold Edward Price | |
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| | | | | Application Number | 15/283,544 | |
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| ST | STATEMENT BY APPLICANT | | | First Named Inventor | Harold Edward Price | |
| | | | | Art Unit | 2447 | |
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| Sheet | 2 | of | 3 | Attorney Docket Number | 0021-49-CON4B | |

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[&]quot;EXAMINER" Initial if reference considered, whether or not citation is in conformance with MPEP 609. Craw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

^{*}Applicant's unique citation designation number (optional). *Applicant is to place a check mark here if English language Translation is attached.

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| ST | ATEMENT E | 3Y A | \PPLICANT | First Named Inventor | Harold Edward Price | |
| | | | | Art Unit | 2447 | |
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| | CERTIFICATION STATEME | NT | | | | | | |
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| /Ernest D. Buff/ dignature Date (YYYY-MM-DD) DD1-11-13 DD1- | | | | | | | | |
| Name/Print | Ernest D. Buff | Registration No. | 25,833 | | | | | |
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|---------|-----------------------------------|----|----------------------|------------------------|---------------|
| | | | | Application Number | 15/283,544 |
| IN | INFORMATION DISCLOSURE | | | Filing Date | 10/03/2016 |
| ST | STATEMENT BY APPLICANT | | First Named Inventor | Harold Edward Price | |
| | | | | Art Unit | 2447 |
| | (Use as many sheets as necessary) | | Examiner Name | N/A | |
| Sheet | 3 | of | 3 | Attorney Docket Number | 0021-49-CON4B |

| | CERTIFICATION STATE | MENT | | | | | |
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| Please see 37 CFR 1.9 | 97 and 1.98 to make the appropriate selection(s): | | | | | | |
| from a foreign pa | of information contained in the information disclosuratent office in a counterpart foreign application not sure statement. See 37 CFR 1.97(e)(1). | | | | | | |
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| foreign patent offi after making reas any individual des | That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filling of the information disclosure statement. See 37 CFR 1.97(e)(2). | | | | | | |
| See attached cert | ification statement. | | | | | | |
| The fee set forth i | n 37 CFR 1.17 (p) has been submitted herewith. | | | | | | |
| A certification stat | ement is not submitted herewith. | | | | | | |
| A signature of the app form of the signature. | SIGNATURE A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the orm of the signature. | | | | | | |
| Signature / | Ernest D. Buff/ | Date (YYYY-MM- DD) | 2016-11-13 | | | | |
| Name/Print | Ernest D. Buff | Registration No | 25,833 | | | | |

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1.14. This collection is estimated to take 1 hour 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.**

| Electronic Patent Application Fee Transmittal | | | | | | | |
|---|---------------------------|-------------------|----------------|--------|-------------------------|--|--|
| Application Number: | 15 | 283544 | | | | | |
| Filing Date: | 03- | Oct-2016 | | | | | |
| Title of Invention: | STI | REAMING MEDIA DE | ELIVERY SYSTEM | I | | | |
| First Named Inventor/Applicant Name: | На | rold Edward Price | | | | | |
| Filer: | ERNEST D BUFF/Ernest Buff | | | | | | |
| Attorney Docket Number: | 00 | 21-49 CON4B | | | | | |
| Filed as Small Entity | | | | | | | |
| Filing Fees for Utility under 35 USC 111(a) | | | | | | | |
| Description | | Fee Code | Quantity | Amount | Sub-Total in USD(\$) | | |
| Basic Filing: | | | | | | | |
| Pages: | | | | | | | |
| Claims: | | | | | | | |
| Miscellaneous-Filing: | | | | | | | |
| PROCESSING FEE, EXCEPT PROV. APPLS. | | 2830 | 1 | 70 | 70 | | |
| Petition: | | | | | | | |
| Patent-Appeals-and-Interference: | | | | | | | |
| Post-Allowance-and-Post-Issuance: | | | | | | | |

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| Extension-of-Time: | | | | |
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| | Tot | al in USD | (\$) | 70 |
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| Electronic Acl | knowledgement Receipt |
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| EFS ID: | 27564770 |
| Application Number: | 15283544 |
| International Application Number: | |
| Confirmation Number: | 5655 |
| Title of Invention: | STREAMING MEDIA DELIVERY SYSTEM |
| First Named Inventor/Applicant Name: | Harold Edward Price |
| Customer Number: | 25901 |
| Filer: | ERNEST D BUFF/Ernest Buff |
| Filer Authorized By: | ERNEST D BUFF |
| Attorney Docket Number: | 0021-49 CON4B |
| Receipt Date: | 20-NOV-2016 |
| Filing Date: | 03-OCT-2016 |
| Time Stamp: | 13:59:26 |
| Application Type: | Utility under 35 USC 111(a) |

Payment information:

| Submitted with Payment | yes |
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| Payment Type | EFT |
| Payment was successfully received in RAM | \$70 |
| RAM confirmation Number | 112116INTEFSW14013400 |
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| 1 | Information Disclosure Statement (IDS) Form (SB08) | 002149 CON 4BUS Patent IDS.pdf | 2750720 | no | 12 |
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| 3 | Foreign Reference | For eign References Part 1 of 6.pdf | fc31e066f13c47fc583908ef19eadf135657e 530 | no | 415 |
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| 32 | Non Patent Literature | NPLPart2of20-part18-embcut. pdf | 7774424 f17a8c172fd8d58ef331c09331a3d0d88d25 | no | 70 | |
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| EFS ID: | 27564806 | | | | | | | |
| Application Number: | 15283544 | | | | | | | |
| International Application Number: | | | | | | | | |
| Confirmation Number: | 5655 | | | | | | | |
| Title of Invention: | STREAMING MEDIA DELIVERY SYSTEM | | | | | | | |
| First Named Inventor/Applicant Name: | Harold Edward Price | | | | | | | |
| Customer Number: | 25901 | | | | | | | |
| Filer: | ERNEST D BUFF/Ernest Buff | | | | | | | |
| Filer Authorized By: | ERNEST D BUFF | | | | | | | |
| Attorney Docket Number: | 0021-49 CON4B | | | | | | | |
| Receipt Date: | 20-NOV-2016 | | | | | | | |
| Filing Date: | 03-OCT-2016 | | | | | | | |
| Time Stamp: | 14:44:02 | | | | | | | |
| Application Type: | Utility under 35 USC 111(a) | | | | | | | |

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| File Listing: | | | | | | | | | | | |
| Document Number | Document Description | | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) | | | | | |
| | | | | 24192231 | | | | | | | |
| 1 | Non Patent Literature | NF | PLPart16of20-part7-embcut. pdf | cba26d2a969d2424f32278330cf06ba7a3d 6a735 | no | 250 | | | | | |
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| | Non Patent Literature | NPL Part 16 of 20-part 8-embcut. pdf | 75e72c3ed73e4ee9a1fbe0bcbcca3e7c4b5 2b835 | no | 250 |
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| | | | 18410092 | | |
| 3 | Non Patent Literature | NPLPart 16 of 20-part 9-embcut. pdf | 0dfe09f3d68d5184ab02e6d88ee68acdf9e4 a410 | no | 140 |
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| 4 | Non Patent Literature | NPLPart 16 of 20-part 10-embcut. pdf | 66352cb40b33d7476fadf3725cd96d9d018 ffcf8 | no | 124 |
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| | | | 18916709 | no | |
| 5 | Non Patent Literature | NPLPart 17 of 20-part 1-embcut. pdf | db694740cfa5765c51c79ad846449868d54 36cdc | | 110 |
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| 6 | Non Patent Literature | NPLPart 17 of 20-part 2-embcut. pdf | d4660fc1ce96a1fe5a1c5ab094159f7a771d bb47 | no | 110 |
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| 7 | Non Patent Literature | NPLPart 17 of 20-part 3-embcut. pdf | c41daf5ae652458085a1986b3e0363d6a03 e0e9d | no | 221 |
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| 14 | Non Patent Literature | NPLPart18of20-part5-b- embcut.pdf | 339b0195bd21f4d2fdfe8602b863f270e2d8 9af5 | no | 50 |
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| 13 | Non Patent Literature | NPLPart 18 of 20-part 5-a- embcut.pdf | 10103519 e4e1b7d1cc3dc0c59f532af756981a6062e1 a5e3 | no | 50 |
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| 12 | Non Patent Literature | NPLPart18of20-part4-embcut. pdf | 430daebbd2ebc26693cb46cb21d91f3d0ee a5fae | no | 100 |
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| 11 | Non Patent Literature | NPLPart18of20-part3-b- embcut.pdf | 11113114a06e28b4bfaee70eedd891382d7 4255f | no | 40 |
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| 9 | Non Patent Literature | NPLPart18of20-part2-embcut. | 7899629 | no | 100 |

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| 17 | Non Patent Literature | NPLPart18of20-part8-embcut. pdf | 5664f0879da24b8ace78ed390ea7efd9c531 9d6d | no | 80 |
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| | | | 3474599 | | |
| 18 | Non Patent Literature | NPLPart18of20-part9-embcut. pdf | 0babd1e4ce87168d26e179cd2300ccbc21f 8fa4a | no | 20 |
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| 21 | Non Patent Literature | NPLPart18of20-part12-embcut. pdf | cc480b2e7ba3e58cc2914e568e7f1fdde1af 74e0 | no | 50 |
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| | | | 16047670 | | |
| 22 | Non Patent Literature | NPLPart18of20-part13-embcut. pdf | 1673ea821975e7772b7706c12e7efa7b263 6f891 | no | 80 |
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| 28 | Non Patent Literature | NPLPart18of20-part19-embcut. pdf | b86cb75f652351c551d9c8d7a0124c31ca8 99059 | no | 100 |
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| 27 | Non Patent Literature | NPLPart 18 of 20-part 18-embcut. pdf | 15735773 2a8d7d4fce81b5674ba50024dfdd1b68db0 7de90 | no | 50 |
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| 26 | Non Patent Literature | NPLPart 18 of 20-part 17-embcut. pdf | 8f3c27179cdc80153b777e1d2fd85812532 81ff6 | no | 50 |
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| 25 | Non Patent Literature | NPLPart18of20-part16-embcut. pdf | ff45d041c8111a81ebeb6dbc0ae722ca11c4 d7d0 | no | 100 |
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| 24 | Non Patent Literature | NPLPart 18 of 20-part 15-embcut. pdf | 89cce96e6c40832bf05a959e04fc46edb40f ac08 | no | 100 |
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| 23 | Non Patent Literature | NPLPart18of20-part14-embcut. pdf | 69207ce731481f8aaa10093dae6e61a86dd 6a605 | no | 100 |
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| | | | 12069594 | | |
| 32 | Non Patent Literature | NPLPart20of20-part1-embcut. pdf | 70a95da73c24e7dbe960a3b833e4af4e2b8 b827f | no | 80 |
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| 33 | Non Patent Literature | NPLPart20of20-part2-embcut. pdf | 4150205e3e637679a5fd6a47b3fa1925bc6 74311 | no | 59 |
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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.

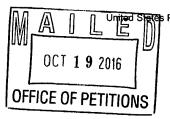
New International Application Filed with the USPTO as a Receiving Office

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.



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Commissioner for Patents S Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450 www.uspto.gov

Doc Code: TRACK1.GRANT

| | Prior | Granting Request for itized Examination ck I or After RCE) | Application No.: 15/283,544 | | | | | |
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| 1. | THE R | EQUEST FILED October 3, 2 | 016 IS GRANTED . | | | | | |
| | The above- A. B. | for an original nonprovisional | requirements for prioritized examination I application (Track I). g continued examination (RCE). | | | | | |
| 2. | | | ndergo prioritized examination. The application will be course of prosecution until one of the following occurs: | | | | | |
| | Α. | filing a petition for extension of | time to extend the time period for filing a reply; | | | | | |
| | B. | filing an amendment to amend | the application to contain more than four independent | | | | | |
| | | claims, more than thirty total c | laims, or a multiple dependent claim; | | | | | |
| | C. | filing a request for continued ex | <u>xamination;</u> | | | | | |
| | D. | filing a notice of appeal; | | | | | | |
| | E. | filing a request for suspension of | action; | | | | | |
| | F. | mailing of a notice of allowance; | | | | | | |
| | G. | mailing of a final Office action; | | | | | | |
| | H. | completion of examination as de | fined in 37 CFR 41.102; or | | | | | |
| | 1. | abandonment of the application. | | | | | | |
| | Telephone inquiries with regard to this decision should be directed to Brian W. Brown at 571-272-5338. | | | | | | | |
| | /Brian W. Brown/ [<i>Signature</i>] | | Petitions Examiner, Office of Petitions (Title) | | | | | |

U.S. Patent and Trademark Office PTO-2298 (Rev. 02-2012)



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| APPLICATION | FILING or | GRP ART | | | | |
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| NUMBER | 371(c) DATE | UNIT | FIL FEE REC'D | ATTY.DOCKET.NO | TOT CLAIMS | IND CLAIMS |
| 15/283 544 | 10/03/2016 | | 730 | 0021-49 CON4B | 12 | 3 |

FILING RECEIPT

25901 ERNEST D. BUFF ERNEST D. BUFF AND ASSOCIATES, LLC.

231 SOMERVILLE ROAD BEDMINSTER, NJ 07921

CONFIRMATION NO. 5655
RECEIPT

Date Mailed: 10/17/2016

Receipt is acknowledged of this non-provisional 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 APPLICANT, 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 Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections 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

Inventor(s)

Harold Edward Price, Bethel Park, PA;

Applicant(s)

WAG ACQUISITION, L.L.C., Flanders, NJ;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 13/815,040 01/25/2013 which is a CON of 13/385,375 02/16/2012 PAT 8364839 which is a CON of 12/800,177 05/10/2010 PAT 8185611 which is a CON of 10/893,814 07/19/2004 PAT 7716358 which is a CIP of 09/819,337 03/28/2001 PAT 6766376 which claims benefit of 60/231,997 09/12/2000

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.

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

page 1 of 3

If Required, Foreign Filing License Granted: 10/14/2016

The country code and number of your priority application, to be used for filing abroad under the Paris Convention,

is **US 15/283,544**

Projected Publication Date: 01/26/2017

Non-Publication Request: No
Early Publication Request: No
** SMALL ENTITY **

Title

STREAMING MEDIA DELIVERY SYSTEM

Preliminary Class

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

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ATTY. DOCKET NO./TITLE APPLICATION NUMBER FILING OR 371(C) DATE FIRST NAMED APPLICANT 15/283,544 10/03/2016

Harold Edward Price

0021-49 CON4B **CONFIRMATION NO. 5655**

INFORMAL NOTICE

ERNEST D. BUFF ERNEST D. BUFF AND ASSOCIATES, LLC. 231 SOMERVILLE ROAD BEDMINSTER, NJ 07921



Date Mailed: 10/17/2016

INFORMATIONAL NOTICE TO APPLICANT

Applicant is notified that the above-identified application contains the deficiencies noted below. No period for reply is set forth in this notice for correction of these deficiencies. However, if a deficiency relates to the inventor's oath or declaration, the applicant must file an oath or declaration in compliance with 37 CFR 1.63, or a substitute statement in compliance with 37 CFR 1.64, executed by or with respect to each actual inventor no later than the expiration of the time period set in the "Notice of Allowability" to avoid abandonment. See 37 CFR 1.53(f).

The item(s) indicated below are also required and should be submitted with any reply to this notice to avoid further processing delays.

A new inventor's oath or declaration that identifies this application (e.g., by Application Number and filing date) is required. The inventor's oath or declaration does not comply with 37 CFR 1.63 in that it:

 does not state that the above-identified application was made or authorized to be made by the person executing the oath or declaration.

Harold Edward Price

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.

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| | IC FEE FR 1.16(a), (b), or (c)) | N. | /A | N | J/A | N/A | A | 70 | 1 | N/A | |
| SEA | RCH FEE FR 1.16(k), (i), or (m)) | N. | /A | N | J/A | N/A | A | 300 | 1 | N/A | |
| EXA | MINATION FEE FR 1.16(o), (p), or (q)) | N. | /A | N | J/A | N/A | A | 360 | 1 | N/A | |
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| INDE | PENDENT CLAIMS | 3 | minus (| 3 = * | | × 21 | 0 = | 0.00 | 1 | | |
| 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). | | | | | ze fee due is ch additional | | | 0.00 | - | | |
| MUL | TIPLE DEPENDEN | T CLAIM PRE | SENT (37 | ' CFR 1.16(j)) | | | | 0.00 | | | |
| * If ti | he difference in colu | mn 1 is less th | an zero, e | enter "0" in colur | mn 2. | TOTA | AL | 730 | | TOTAL | |
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| IEN | Independent (37 CFR 1.16(h)) | | Minus | *** | = | х | = | | OR | x = | |
| ΑV | Application Size Fee (| 37 CFR 1.16(s)) | | | | | | | | | |
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| ТВ | | (Column 1) CLAIMS REMAINING AFTER AMENDMENT | | (Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR | (Column 3) PRESENT EXTRA | RATE | Ξ(\$) | ADDITIONAL FEE(\$) | | RATE(\$) | ADDITIONAL FEE(\$) |
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IMPROPER CFR REQUEST

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CONFIRMATION NO. 5655

RESPONSE TO REQUEST FOR CORRECTED FILING RECEIPT

Continuity, Priority Claims, Petitions, and Non-Publication Requests

In response to your request for a corrected Filing Receipt, the Office is unable to comply with your request because:

• One or more of the benefit claims under 35 U.S.C. § 120 cannot be included on the Filing Receipt since applicant did not specify whether the application is a continuation, divisional or continuation-in-part of the prior application. Applicant must submit a new application data sheet (ADS) that sets forth the relationship, and the ADS must be accompanied by a petition under 37 CFR 1.78 if filed after the time period set forth in 37 CFR 1.78.

> 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.

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STREAMING MEDIA DELIVERY SYSTEM

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation of U.S. patent application Ser. No. 13/815,040, filed Jan. 25, 2013 (published on Jun. 13, 2013 as U.S. patent publication number 2013/0151724 A1), which was a continuation of U.S. patent application Ser. No. 13/385,375, filed Feb. 16, 2012 (published on Jun. 28, 2012 as U.S. patent publication number 2012/0166669 A1 and now U.S. Pat. No. 8,364,839, issued Jan. 29, 2013), which was a continuation of U.S. patent application Ser. No. 12/800,177, filed May 10, 2010 (published on Sep. 2, 2010 as U.S. patent publication number 2010/0223362 A1 and now U.S. Pat. No. 8,185,611, issued May 22, 2012), which was a continuation of U.S. patent application Ser. No. 10/893,814, filed Jul. 19, 2004 (published on Dec. 9, 2004 as U.S. patent publication number 2004/0249969 A1, and now U.S. Pat. No. 7,716,358, issued May 11, 2010), which was a continuation-in-part of U.S. patent application Ser. No. 09/819,337, filed Mar. 28, 2001 (now U.S. Pat. No. 6,766,376, issued Jul. 20, 2004), which was a nonprovisional of U.S. provisional patent application Ser. No. 60/231,997, filed Sep. 12, 2000 and now abandoned; and it claims the benefit, under 35 U.S.C. §120, of the respective filing dates of said nonprovisional applications, and the benefit under 35 U.S.C. §119(e) of said provisional application, as well as benefit under 35 U.S.C. §§120 and 119(e) (as applicable) of the filing dates of: copending U.S. patent application Ser. No. 10/825,869, filed Apr. 16, 2004 (published on Dec. 23, 2004 as U.S. patent publication number 2004/260828 A1), which was a continuation of said U.S. patent application Ser. No. 09/819,337, which was a nonprovisional of said provisional patent application Ser. No. 60/231,997; and hereby incorporates by reference the entire disclosure of each of said prior applications. This application further incorporates by reference the entire disclosure of U.S. patent application Ser. No. 13/374,942, filed Jan. 24, 2012 (published on Jun. 14, 2012 as U.S. patent publication number 2012/0151083 A1, and now U.S. Pat. No. 8,327,011, issued Dec. 4, 2012, which was a continuation of U.S. patent application Ser. No. 12/800,152, filed May 10, 2010 (published on Sep. 16,

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2010 as U.S. patent publication number 2010/0235536 A1, and now U.S. Pat. No. 8,122,141, issued Feb. 21, 2012), which was also a continuation of said U.S. patent application Ser. No. 10/893,814.

BACKGROUND OF THE INVENTION

Field of the Invention

[0002] The present invention relates to multimedia computer communication systems; and more particularly, to systems and methods for delivering streaming media, such as audio and video, on the Internet.

Description of the Related Art

[0003] Prior to the development of Internet streaming media technologies, audio and video were formatted into files, which users needed to download in their entirety to their computers before the files could be heard or viewed. Real time, continuous media, as from a radio station, was not suitable for this arrangement, in that a file of finite size must be created so it could be downloaded. The advent of streaming media technologies allowed users to listen to or view the files as they were being downloaded, and allowed users to "tune-in" to a continuous media broadcast, or "stream", such as from a radio station.

[0005] Sending audio or video files via a network is known in the art. U.S. patent number 6,029,194 to Tilt describes a media server for the distribution of audio/video over networks, in which retrieved media frames are transferred to a FIFO buffer. A clock rate for a local clock is adjusted according to the fullness of the buffer. The media frames from the buffer are sent in the form of data packets over the networks in response to interrupts generated by the local clock. In this manner, the timing for the media frames is controlled by the user to assure a continuous stream of video during editing. U.S. patent number 6,014,706 to Cannon, et al. discloses an apparatus and method for displaying streamed digital video data on a client computer. The client

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computer is configured to receive the streamed digital video data from a server computer via a computer network.

[0006] The streamed digital video data is transmitted from the server computer to the client computer as a stream of video frames. U.S. patent number 6,002,720, to Yurt, et al. discloses a system for distributing video and/or audio information, wherein digital signal processing is employed to achieve high rates of data compression. U.S. patent number 5,923,655, to Veschi et al. discloses a system and method for communicating audio/ video data in a packet-based computer network, wherein transmission of data packets through the computer network requires variable periods of transmission time. U.S. patent number 5,922,048 to Emura discloses a video server apparatus having a stream control section that determines a keyframe readout interval and a keyframe playback interval, which satisfy a playback speed designated by a terminal apparatus. Finally, U.S. patent number 6,014,694 to Aharoni, et al. discloses a system and method for adaptively transporting video over networks, including the Internet, wherein the available bandwidth varies with time.

[0007] Despite these developments, users viewing or listening to streaming content over Internet connections often encounter interruptions, due to the frequency of unanticipated transmission delays and losses that are inherent in many Internet protocols. These interruptions are commonly referred to as "dropouts", meaning that the data flow to the user has been interrupted (i.e., the audio "drops out").

[0008] Dropouts can be extremely annoying--for example, while listening to music. The current state-of-the-art solution to the problem uses a pre-buffering technique to store up enough audio or video data in the user's computer so that it can play the audio or video with a minimum of dropouts. This process requires the user to wait until enough of the media file is buffered in memory before listening or viewing can begin. The media data is delivered by a server computer, which has available to it the source of the media data, such as by a connection to a radio station. When the user connects to the server via the Internet, audio/video output at the user's system is delayed while the user's

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buffer is filled to a predetermined level. Typical pre-buffering wait times range from ten to twenty seconds or more, determined by the vendor providing the audio or video media. Even with this pre-buffering process, interruptions in playback still occur.

[0009] In this process, the user has a software application on the computer commonly called a "media player". Using the features built into the media player, the user starts the audio or video stream, typically by clicking on a "start" button, and waits ten to twenty seconds or so before the material starts playing. During this time data is being received from the source and filling the media player's buffer. The audio or video data is delivered from the source at the rate it is to be played out. If, for example, the user is listening to an audio stream encoded to be played-out at 24,000 bits per second, the source sends the audio data at the rate of 24,000 bits per second. Provided that the user waits ten seconds, and the receipt of the buffering data has not been interrupted, there is enough media data stored in the buffer to play for ten seconds.

[0010] Gaps in the receipt of audio/video data, due to Internet slowdowns, cause the buffer to deplete. Because transmission of audio/video media data to the user takes place at the rate it is played out, the user's buffer level can never be increased or replenished while it is playing. Thus, gaps in the receipt of audio/video media data inexorably cause the buffer level to decrease from its initial level. In time, extended or repeated occurrences of these gaps empty the user's buffer. The audio/video material stops playing, and the buffer must be refilled to its original predetermined level before playing of the media resumes.

[0011] By way of illustration, if, in a ten second pre-buffering scenario, data reception stopped the instant that the media started playing, it would play for exactly ten seconds. Once the media data starts playing, itplays out of the buffer as new media data replenishes the buffer. The incoming data rate equals the rate at which the data is played out of the user's buffer, assuming the receipt of data across the Internet is unimpeded. If there are no interruptions in the receipt of the media data for the duration of the time the user listens to or watches the material, the buffer level remains

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constant and there will still be ten seconds of data stored in the media player's buffer when the user stops the player.

[0012] On the other hand, if the media player encounters interruptions totaling six seconds while playing the material, there would only be four seconds of media data remaining in the buffer when the user stopped it. If data reception interruptions at any time during the playing exceed ten seconds, the user's media player buffer becomes exhausted. There is no media data to play, and the audio or video stops--a dropout has occurred. At this point a software mechanism in the media player stops attempting to play any more of the material, and starts the buffering process again. The media player remains silent until the buffer refills, at which time the media player will once again start playing the material. This pattern has brought about considerable consumer frustration with streaming media over the Internet.

BRIEF SUMMARY OF THE INVENTION

[0013] There is a need for improved systems and methods for delivering streaming content over the Internet or other communications medium, which facilitate continuous transmission of streaming content, respond on demand without objectionable buffering delay, and perform without disruption or dropouts.

[0014] To address these objectives, various embodiments for delivering streaming content are provided, which envision that both the server and user systems involved in the content delivery may have buffering capacity. The embodiments make varying uses of this capacity to facilitate continuous content transmission on demand. Nearly instantaneous playback is achieved, while maintaining protection against playback interruption.

[0015] In one aspect, the server and user-sides of the transmission are coordinated, by (a) sending initial streaming media elements to the user system at a sending rate more rapid than the playback rate, to fill the user buffer; and (b) after the user buffer has

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been filled, sending further streaming media data elements to the user system at about the playback rate.

[0016] In another embodiment, the user system may be used to regulate transmission of streaming media to it, by a streaming media server. In such embodiment, the server may operate by (a) assigning identifiers to the sequential media data elements comprising the program; (b) receiving requests from the user system for media data elements corresponding to specified identifiers; and (c) sending media data elements to the user system responsive to said requests. A user system used in connection with such an embodiment may operate by (i) maintaining a record of the identifier of the last sequential media data element that has been received by said player; (ii) requesting transmission of the next sequential media data elements following said last sequential media data element, as said media player requires for continuous and uninterrupted playback.

[0017] Other aspects and advantages of the invention will be apparent from the accompanying drawings and the detailed description that follows.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] The invention will be more fully understood and further advantages will become apparent when reference is had to the following detailed description and the accompanying drawings, in which:

[0019] FIG. 1 is a schematic/block diagram illustrating the elements of a streaming media buffering system in accordance with one embodiment of the present invention;

[0020] FIG. 2 is a schematic/block diagram of an alternative embodiment of the system shown by FIG. 1; and

[0021] FIG. 3 is a flowchart illustrating a method employed in one embodiment of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

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[0022] The following is a detailed description of certain embodiments of the invention chosen to provide illustrative examples of how it may preferably be implemented.

[0023] Audio and video media must play out over a period of time. Thus, in considering the delivery of such media, it is more appropriate in certain respects to think of bandwidth requirements than file size. The bandwidth requirement of audio or video media refers to the data rate in bits per second that must be transmitted and received in order to listen to or view the material uninterrupted.

[0024] Transmitting the audio or video material over a connection slower than the bandwidth requirement results in unsatisfactory viewing or listening, if viewing or listening is possible at all. The connection available may, for example, be by dialup modem, which has a maximum receive data rate of 56,000 bits per second. Audio and video encoded for distribution over the Internet may be compressed to be listenable or viewable within such a 56,000 bits per second bandwidth. Requirements for achieving adequate audio and video over the Internet may consume a considerable portion of the listener's available bandwidth.

[0025] There are two types of encoding schemes used for audio and video material -"Variable Bit Rate" (VBR), and "Constant Bit Rate" (CBR). CBR encoding represents the
encoded media with a constant bit rate per second, regardless of the complexity of the
material being encoded. For example, if an audio source is encoded at 20 kilobits per
second at a Constant Bit Rate, the media data being produced from the encoding is at
20 kilobits per second, whether the audio material is complex (e.g., symphonic) or
silence. Variable Bit Rate encoding uses a variable number of bits to represent sounds or
video, with more bits required for complex material (e.g., symphonic sounds or action
scenes) than for simple sounds, silence, or still scenes. The most usual encoding scheme
used for streaming media is CBR, because the resulting data rate is more predictable
than for VBR. Statements in this specification concerning "constant" data rates and the
like should be understood as subject to appropriate variation where VBR-encoded data
may be involved.

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[0026] Even if a user's Internet connection has the requisite average bandwidth capacity to allow reception of the program, the actual rate of delivery of data to the user can fluctuate widely above, and more particularly, below, this average, as a function of the quality of the user's connectivity at any given time. Internet connection quality can vary rapidly over time, with two primary factors responsible for degradation of the instantaneous bandwidth actually available to the user. These factors are the quality of the user's Internet connection, which can have periods of interference causing reduced available bandwidth, and momentary Internet congestion at various points along the route over which the user's data flows. Each of these factors can cause delays and interruptions in the transmission of data to the user. Internet data communications devices such as routers are designed to drop data packets if they get overloaded. For material that is not time sensitive, these dropped packets will usually be resent, and the user will eventually be presented with the material. However, since streaming media is time sensitive, dropped packets can have a significant impact on the receipt and playback of an audio or video stream. Such degradation in the receipt of Internet data is very common, and prevent most users from being able to listen to or view streaming media without interruption unless some special provisions have been incorporated into the user's computer software to accommodate data transmission interruptions.

[0027] There are two fundamental types of streaming media, which affect, in some respects, the requirements for smooth and continuous delivery: (i) material that originates from a source having a realtime nature, such as a radio or TV broadcast, and (ii) material that originates from a non-real-time source such as from a disk file. An example of non-real-time material might be a piece of music stored as a disk file, or a portion of a broadcast that originally was realtime, perhaps yesterday's TV evening news, and was recorded into a disk file. For purposes of clarity within this document, streaming media of type (i) will be referred to as "real time" or "broadcast" media, and streaming media of type (ii) will be referred to as "file based" media.

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[0028] In many respects, both streaming media types are handled similarly in conventional systems, and both are handled similarly (in a number of respects) by the streaming media delivery system of the present invention. Nevertheless, the two streaming media types are readily distinguished. Broadcast streaming media has as its source a system or arrangement that by definition can only be transmitted to users as fast as the material is generated; for example, a disk jockey speaking into a microphone. File based media, on the other hand, can be transmitted to users at any available data rate, since in the context of data communications, the time required for reading a small portion of data from a file residing entirely on a locally accessible, random access storage device may be considered negligible.

[0029] In conventional systems for streaming media over the Internet, media data (whether real-time or file based) is simply transmitted from the server to the user at the rate at which it will be played out (the "playback rate"), regardless of the data rate capabilities of the connection between the server and the user.

[0030] Conventional streaming media systems may incorporate server-side buffering systems for programmatic purposes. For example, the system may buffer media data at the server for the purpose of packet assembly/disassembly. Media data may also be buffered at the server to permit programming conveniences such as dealing with blocks of data of a specific size. However, conventional streaming media systems have not utilized server-side buffering for the purpose of mitigating long term Internet performance degradation. Rather, prior art systems, in which data is continuously transmitted at the playback rate, have performed buffering for continuity purposes solely on the user side, with the consequences discussed above of startup delays and dropouts. The present invention addresses such shortcomings.

[0031] The present invention provides a system and method for delivering streaming media, such as audio or video media, via the Internet or other communications medium. Immediate playing of the media on a user's computer is afforded, while reducing interruptions in playback due to Internet congestion, and temporary modem delays due

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to noisy lines. Nearly instantaneous playback is achieved, while maintaining protection against playback interruption. Delayed starts, heretofore required to provide protection against interruption, are avoided. Data lost due to interruptions in the receipt of media data by the media player can be recovered while the player continues to play out the audio or video material. If the interruptions are so severe as to deplete the user's buffer and stop the play out, the media player can quickly recover as well, by beginning to play out again without waiting to first build up the buffer, as soon as the media player begins to receive media data elements.

[0032] In one embodiment, the invention provides a system for distributing via the Internet streaming media composed of a plurality of time-sequenced data elements. As shown in FIG. 1, the system is provided with a server 12 connected to the Internet 10 for transmitting the streaming media data elements. Associated with the server 12 is a server buffer 14 for storing at least one of the data elements for transmission, and a buffer manager 16. Buffer 14 is a conventional computer storage mechanism such as a hard disk, as shown for convenience of illustration, or, preferably, an electronic storage arrangement such as Random Access Memory (RAM).

[0033] The media may come from a live source, shown as 26 in FIG. 1, or from a stored file on the server 12, or another storage device, such as a hard drive.

[0034] A number of different implementations of such a server, involving different ways of handling server buffer 14, will be discussed.

[0035] In the various implementations, there is in each case at least one user computer 18 (or similar device) connected to the server 12 via the Internet 10 or other data communications medium. User computer 18 is associated with media player software incorporating user buffer 20. The user buffer 20 is provided with means for storing a predetermined number of the data elements. User buffer 20 is a conventional computer storage mechanism such as a hard disk, or, preferably, an electronic storage arrangement such as Random Access Memory (RAM) as suggested by the illustration. A buffer manager 22 is also associated with the user computer 18. The buffer manager 22,

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having the form of software or firmware, is provided with means for receiving and storing a predetermined number of media data elements which are received sequentially by the media player, playing the data out sequentially as audio and/or video, and deleting media data elements from the buffer as they are played out (or displacing them by newly arrived elements). As data is played out, the next sequential data elements are received from the server in such a fashion as to approximately maintain the predetermined number of data elements in the user's buffer. It should be understood that data might arrive at the media player out-of-sequence and that processes in the media player or the media player buffer manager are responsible for properly arranging this data.

[0036] Alternatively, user computer 18 may be replaced by an Internet radio or Internet Appliance, which is comprised of a dedicated processor for receiving Internet radio or audio/video material. Examples of such devices might range from familiar computing devices such as palmtops, PDAs (Personal Digital Assistants), and wireless phones, to devices that appear and operate similarly to conventional consumer electronic devices such as radios and televisions, but with the additional capability of Internet access.

FIFO Server Buffer Implementation

[0037] There are a large number of ways of managing server buffer 14 in order to implement the systems and methods described in this specification. In one implementation, buffer manager 16 is adapted to effectively render server buffer 14 a FIFO device. In this implementation, buffer manager 16 is provided in the form of software or firmware that provides means for: receiving the media data; supplying media data in order to the FIFO buffer; supplying the buffer 14 with a predetermined number of data elements; maintaining pointers 24a through 24n into the buffer, one for each user computer indicating the last media data element that has been sent to that user, thus indicating the next element or elements to be sent; and, once the FIFO buffer is full, deleting (or displacing) the oldest data element in the buffer as each new data element is received. These means are arranged to maintain the pre-determined number

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of data elements in the FIFO buffer. Buffer Manager 16 may also comprise means for digitizing, encoding, and packetizing the media data, and formatting media data according to the requirements of buffer 14.

Data Window Buffer Implementation

[0038] If the media source is file based, such as a music clip stored as a disk file, and if the disk file is stored on the server or an associated server computer, the server's connection to the source could be considered to be near instantaneous. In this case, rather than audio/video data filling and depleting the buffer 14, an amount of audio/video data equivalent to the desired buffer size may be logically constituted as a FIFO buffer. Such a construct is commonly called a data window. The data window moves on a time-sequenced basis through the media data file, thus defining the contents of the buffer on a moment-by-moment basis and performing the equivalent functions to receiving a new data element and deleting the oldest data element.

Example Buffering Methods

[0039] In an arrangement that receives media data directly or indirectly from a real-time source, such as a radio station, server buffer 14 might be set to hold (for example) 30 seconds of media data. Because the source produces media data in real time, the media data is delivered to the server approximately at the rate it is generated.

[0040] Of course, there can be variability in this data delivery process due to networking, disk accesses, and so on, causing the delivery rate of the media data to be variable over short periods of time, typically measured in seconds. But over a longer period of time measured in minutes or tens of minutes or longer, the media data is delivered from source to server at the rate it is generated, and the server in turn provides that media data to the FIFO buffer at that same rate. Since CBR encoding is typically used for streaming media, the media data is generated, received by the server, and provided to the buffer approximately at a fixed rate.

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[0041] The server buffer 14 is filled the first time the media source connection is established or a disk file is read. The amount is preferably adequate to bridge gaps typical of Internet and modem delays to the user. This buffer may, for example, hold enough data elements for about one minute of play.

[0042] Once server buffer 14 is full, for each new data element received into the buffer the oldest data element is deleted (or displaced) from the buffer. In some implementations, requests from user computers to connect may not be accepted until server buffer 14 is full.

[0043] Once a connection is made to a user's computer (e.g., user computer 18), server 12 sends the media data to the user computer in the following manner. First, media data is sent to the user computer at a rate faster than the playback rate, which may be the highest rate that the data connection between the server and the user computer will support, or any lower rate that is a higher rate than the playback rate (referred to herein as a "higher than playback" rate), until the predetermined amount of data that had been stored in the server buffer has been transferred to the user's computer. Once the contents of server buffer 14 has been transferred, a steady state condition is reached wherein as each media data element arrives at server 12, it is immediately sent out to the user computer. In this steady state condition, the media data is sent at a rate that matches the constant fill rate of the server buffer, and is received at the same rate by the user computer if there are no interruptions in the transmission of media data between the server and the user's computer (with some variation in the case of VBR content). If interruptions have interfered with the arrival of sent media data to the user's computer, that data may have been "dropped" by routers in the Internet and needs to be resent. This causes data to "back up" into the server FIFO for that user.

[0044] A data communications transport mechanism, such as the TCP protocol, may be used for the reliable delivery of data in an ordered sequence from the source of the media data to the server, or from the server to the media player software of the user computer. Resending missing data is the responsibility of the reliable transport

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mechanism. The server buffer 14 "sends" data by delivering it to the transport mechanism. The transport mechanism actually manages transmission of the data across the communications medium, and has processes to determine if all the data that has been sent has been received by the destination. If not, missing pieces of data are automatically resent to the destination, and are arranged to be delivered to the target software on the destination system in an ordered fashion. In this example, the destination is user computer 18, and the target software on the destination system is the media player. If the transport mechanism determines that data is missing, it retransmits that data to the destination at a higher than playback rate. In another method of operation, server 12 can use an unreliable transport mechanism, such as UDP, and rely on a streaming software process to manage data delivery and the resending of data elements not received by the media player.

[0045] All media data to be delivered to a user computer may be sent at a higher than playback rate, either by the server buffer 14 passing media data to the transport mechanism, or by the transport mechanism delivering or redelivering the media data to the user computer.

[0046] This is enabled by buffering data at the server 12, and is distinctly different from prior art, in which media data is only sent from the server 12 to the user computer 18 at the rate at which it is to be played out.

[0047] As an example of the preceding description, if the server had been set to store 30 seconds of audio in its buffer, when a user connects, that 30 seconds worth of media data is transferred to the user's media player buffer at a higher than playback rate. The media player can begin playing as soon as it has received a very minimum amount of data, perhaps comprising only a single packet of media data.

[0048] For ease of understanding, consider the server buffer and the media player buffer to be an elastic system that between the two stores (for example) up 30 seconds of audio data. The server starts with 30 seconds of buffered audio data which it transfers to the media player until the server has no buffered media data and the media

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player has 30 seconds of buffered media data. Regardless of how much of the buffered media data has been transmitted to the media player, there always is 30 seconds of media data being buffered between the two locations. Consequently, the audio being played out by the media player will always be 30 seconds behind the audio at the source. If there were a media player in the radio station studio, an announcer would hear themselves through the media player with a 30 second delay.

[0049] Connections from the server 12 through the Internet 10 commonly are much faster than the data rate required for audio or video playback. This fact is insignificant for conventional servers because, not having a FIFO buffer or a buffer pointer for each user, audio/video data can only be sent as fast as it becomes available, or as fast as the pace at which it must be delivered to the user in order to be properly replayed. The user, typically interacting with media player software on the user's computer, selects a media source requiring a data rate slower than that available by the user's connection to the Internet. For example, if the user's connection to the Internet is made via a 56,000 bits per second modem, the user might select a media source encoded for playback at 24,000 bits per second.

[0050] With the present invention, as soon as a user connects to the server 12, the server 12 transmits audio/video data as sequential data elements from its buffer 14 to the buffer 20 of the user, at a higher than playback rate. Unlike the prior art, media begins to play on the user computer 18 as soon as the user connection is made to the audio server 12 and a minimal amount of data elements have been received and stored in the user's buffer 20. The user's buffer 20 is built up while the media is playing. As each data element is played, it is deleted or displaced from the user's buffer 20.

[0051] Initially, the user buffer manager 22 requests the server 12 to send media data elements to start the playback stream, such as by selecting a radio station from a list. The server 12 responds by sending data elements to the user computer 18 at higher than the playback rate, until the entire FIFO buffer 14 has been sent to the user computer. Upon receipt of the initial data elements, the user buffer manager 22 begins

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playback. Because (with reference to CBR content) this is a synchronous system with the source, server, and user computer operating by the same playback clock rate as determined by the encoding rate of the media, as each data element is played out and is deleted or displaced from the user buffer 20, another data element has been deposited into the server buffer 14 and is available to be sent to the user computer. Server 12 sends the newly available data elements at a higher than playback rate.

[0052] Since the connection from the Internet to the user is faster than that required for media playback, audio/video data is transmitted from the server faster than it is played out by the user system, thus building up audio/video data in the user buffer. For example, if the user's connection to the Internet is at 56,000 bits per second, and the data rate encoded for the media to be played is 24,000 bits per second, the buffer level of the user buffer 20 will fill at the rate of 32,000 bits per second (56,000 bits per second receive rate, minus 24,000 bits per second playout depletion rate).

[0053] If, for example, the server buffer 14 held one minute of audio/video data, eventually the user buffer 20 will hold one minute of audio/video data. The effect is that, over a brief period of time, the server buffer 14, or a designated portion of it, is transferred to the user buffer 20. In one embodiment, the number of data elements in the server buffer 14 actually never changes, it always maintains one minute of audio/video data. However, for the particular user under discussion, a copy of all the data held in the buffer has been sent to the user. Since the user buffer 20 now holds one minute of audio/video data, it can play continuously despite data reception interruptions of less than a minute.

[0054] Where some media data has been resent by the reliable transport layer, there may be more data to be sent than would be sent at the routine constant fill rate, and in such a case the server transport mechanism will again send the buffered media data at higher than the playback rate. Similarly, if the media player buffer begins to deplete or becomes depleted due to networking interruptions, the server will attempt to send as much data as is necessary to rebuild the user computer's buffer to the proper level,

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again at higher than a playback rate. This allows for rebuilding the user's computer buffer under circumstances wherein Internet interruptions have blocked the normal flow of data.

[0055] Thus, as soon as the interruption ceases, the user buffer 20 can begin to rebuild, which will take place at higher than the playback rate. The media player can continue to play out the audio/ video material while the user buffer 20 rebuilds. When compared to conventional systems, which provide no capability to rebuild the user's computer buffer when data is lost, the streaming media buffering system of the present invention provides for recovery of lost data elements and the restoration of the user's buffer, even while the user media player continues to play.

[0056] Under conditions in which interruptions have interfered with the arrival of sent media data to the user's computer, data loss exceeding certain levels will cause the transport mechanism software to stop accepting data for transmission from the application software, namely the streaming media server software. Although other arrangements are possible within the scope of this invention, in preferred embodiments, the streaming media server software keeps track of the last data element in the FIFO buffer that has been sent to each user, using a software pointer. Alternatively, or in addition, a feedback manager may be associated with user computer 18, including means for sending to the source server the serial number of the last data element received, or for requesting more data. An interruption in the ability to send media data to a user results in the "last element" pointer "backing up" in FIFO buffer 14 in such a way that the server knows from what point in the buffer to restart sending data when the transport mechanism again requests data to send. When the server software receives that notification, it will begin sending data to the user starting from the next data element to send as indicated by the pointer, and sending as much data as the transport mechanism will accept. The transport mechanism will again send this data as fast as it can to the user. This process continues until the steady state condition is again reached wherein each data element is sent to the user as soon as it arrives from

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the media source, and a pre-determined number of data elements are maintained in user buffer 20.

[0057] The predetermined buffer level in the user buffer 20 may be set at less than the predetermined buffer level of the server buffer 14 if desired. For example, the server buffer 14 might be set to hold one minute of media data, and the user buffer 20 might be set to hold thirty seconds of media data. In another embodiment, a feedback manager 62 is associated with the user computer 18. The feedback manager 62 is provided with means for sending to the source server 12 the serial number of the last data element received. Feedback manager 62 has the form of software or firmware that tracks the last data element received and loaded into the user buffer. In addition, feedback manager 62 is adapted to send the serial number to the source server 12. In this manner, the source server 12 sends the media as sequential data elements at a rate dependent on the quality of the connection with each user computer 18. The media may come from a live source, shown as 25 in Fig. 1, or from a stored file on the source server 12, or another storage device, such as a hard drive.

Implementation with Feedback Manager

[0058] The buffer manager at the source server effectively renders the source buffer 14 a FIFO device holding a fixed amount of data with a constant, time-sequenced fill rate and a constant, time-sequenced depletion rate. Each audio/video data element carries a sequential serial number. Once the buffer 14 is full, each new audio/video data element, identified by a higher serial number, displaces the oldest audio/video data element, identified by the lowest serial number in the buffer 14. In the case of an instantaneous media source, rather than audio/video data filling and depleting the buffer, the top and bottom pointers spanning an amount of audio/video data equivalent to the desired buffer duration move synchronously on a time-sequenced basis to the next higher serial number of the audio/video data available in the system, thus defining the contents of the buffer on a moment-by-moment basis. Thus, if the buffer is capable of holding 100 audio/video data elements, constituting one minute of audio playback, the audio/video

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data elements within the buffer would hold serial numbers of B (baseline) + Tr (transmitted) + (0-99), wherein, starting at some arbitrary value B for the baseline, the serial number count would have been incremented by the number Tr representing the total number of data elements that have been transmitted, and the buffer at any point in time would hold the audio/video data elements in the range B+Tr+O to B+Tr+99. On the next clock tick, the buffer holds B+(Tr+I)+O to B+(Tr+I)+99.

[0059] The unique pointer assigned to each user identifies by serial number either the last data element that was sent to that user, or the next data element to be sent. The selection of either mode is arbitrary; but whichever mode has been selected, that mode is systematically implemented. For purposes of this document, we will use the "last data element that was sent." Thus, for any user, the pointer represents the serial number B+Tr+x, where x represents some value between 0 and 99, as being the serial number of the last audio/video data element that had been sent to the user. Each time a data element is transmitted to the user, x is incremented, pointing to the next higher value in the buffer. Each time a new data element is deposited in the buffer by the audio source, x is decremented. Since audio/video data elements are transmitted to the user faster than they are deposited into the buffer, x will increment faster than it decrements and over time will equal the maximum value of 99, pointing to the most recently deposited audio/video data element.

[0060] The amount of data stored in the source server buffer 14 remains the same, regardless of the pointer value associated with any individual user. The pointer indicates the last data element that has been transmitted to the user, and thus also identifies the next data element to be transmitted to the user.

[0061] When the user's pointer equals B+Tr+99, which is the most recently deposited audio/video data element, the user computer 18 receives audio/video data in real time from the media source. The moment the next audio/video data element is deposited into the source server buffer 14, a copy of that data element is transmitted to the user. The user buffer 18 will now contain 100 audio/video data elements, representing one

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minute of audio/video data, that will be played on a FIFO basis. In effect, the source server buffer 14 has been moved to the user buffer 20.

[0062] Since the user buffer 20 now holds one minute of audio/video data, it can play continuously despite data reception interruptions of less than a minute, and as soon as the interruption ceases the user buffer 20 can begin to rebuild.

[0063] The user computer 18 and the media server 12 are synchronized by a feedback manager in which the user computer 18 either acknowledges the receipt of the serialized audio/video data packets, or requests the next increment of audio/video data packets. This feedback enables the source server to keep track of the buffer pointer on each user's system.

[0064] Interrupts or delays in the flow of data from the source server to the user will cause the user's system to play audio out of the buffer without the buffer being replenished at the same rate. Consequently, the user buffer pointer will decrement at a faster pace than it increments, and the feedback mechanism will keep the source server buffer pointer for that user synchronized. All of the users' source server buffer pointers also decrement with each tick of the clock, as data flows in and flows out of the fixed size buffer. Thus, as a user buffer drains down, the user's source server buffer pointer indexes down as well, in lockstep. Since new audio/video data is continuously placed into the source server buffer from the source, this has the effect of rebuilding the user's buffer at the server.

[0065] Once this system is set in motion, a buffer of a preset duration is constantly maintained for each user, partially or completely at either source server or the listener's system, or ebbing and flowing between them as a result of moment-to-moment circuit conditions.

Distribution Fed From a Separate Source

[0066] In another embodiment, the buffer concept of this invention can be daisychained between multiple Servers. For example, a system might include a source server

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computer co-located in a radio station studio, which transmits to a network distribution server resident in a data center, to which users would connect. The source server would fill its buffer, transfer the buffer to the network distribution server using the process just described for transferring a buffer from a source server to a user, and then the network distribution server would transfer its buffer to the user, again, using the process just described except now with the network distribution server replacing the source server in delivering audio/video data to the user system.

[0067] Such an embodiment is shown in FIG. 2. In this embodiment, the media source may be separate from the server 12, such as computer system 28 located at a broadcast media source, such as a radio station studio. Computer system 28 is a logical element in a data network, and can be physically collocated with the audio source, such as a computer resident in a radio station studio, or it can be remote from the audio source, such as a computer in a data center receiving digitized audio from a distant radio station.

[0068] This computer system 28 includes a source manager 30 which may be implemented in software or firmware. The source manager 30 comprises means for: receiving media data elements as they are generated by the audio and/or video source, formatting media data according to the requirements of server 12, buffer 14, and buffer manager 16; and, for transmitting that media data to server 12 as they are generated. Source manager 30 may, as part of such formatting, include means for digitizing, encoding, and packetizing the media data. Media data typically is generated in real time such as by a speaker talking into a microphone or by playing a CD.

[0069] Generally, computer system 28 transmits media data to server 12 in real time as the media data is generated. Buffering of media data might occur at computer system 28 for convenience of programming, but such buffering is incidental to the operation of the end-to-end system being described. Computer system 28 connects via the Internet 10, or other suitable data communications medium, to a server 12, wherein server buffer manager 16 receives the media data for input into the FIFO buffer 14 as

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described previously, and maintains the pre-determined number of data elements in the FIFO buffer.

[0070] Server 12, in turn, transmits the media data to one or more user computers 18, also as previously described.

Example Methods

[0071] In another embodiment, shown in FIG. 3, the invention provides a method for distributing from a server via the Internet streaming media composed of a plurality of time-sequenced data elements.

[0072] Time-sequenced data elements are generated or received 32. Next, a predetermined number of the data elements is sequentially loaded 34 into a server buffer, which process of 32 and 34 continues indefinitely as long as there is media data available. Next, a group of the data elements is sequentially sent 36 via the Internet from the server buffer to a user computer connected to the Internet, more rapidly than they are played out by the user system. Upon receipt by the user computer, the sent group of data elements is loaded 38 into a user buffer associated with the user computer. The user computer immediately plays 40 the received portion of the media on the user computer. At 42, if the user buffer is not full, then additional data elements are sent to the user computer 36, again more rapidly than it is played out by the user system. And also at 42, if the user buffer is full, the system waits until new media data is delivered to the server buffer 34. This process is repeated until the entire media file is played at the user computer.

[0073] In another embodiments, the steps depicted in Figure 3 could be modified as follows. A serial number is assigned 30 to each of the plurality of time-sequenced data elements. Next, a predetermined number of the data elements is sequentially loaded 32 into a source buffer, and a group of the data elements is sequentially sent 34 via the Internet from the source buffer to a user computer connected to the Internet. Upon receipt by the user computer, the sent group of data elements is loaded 36 into a user

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buffer associated with the user computer. Then, the user computer sends 38 to the source server the serial number of the last data element received by the user computer. The user computer immediately plays 40 the received portion of the media on the user computer. This process is repeated until the entire media file is played at the user computer. Unlike conventional buffer arrangements, audio begins to play on the user system as soon as the user connection is made to the audio source server. The user's buffer is built up while the audio is playing. Advantageously, the system and method of this invention create a faster than real time connection. That is to say, audio/video data is transmitted from the server faster than it is played out by the user system, thus building up audio/video data in the user buffer.

[0074] In another embodiment, the server is connected to the Internet and provisioned as initially described, and has available to it file based media data as the source material. The file based media data can be read by the server which can deliver media data elements to the server FIFO buffer to the same effect as if the data had arrived from a broadcast media source. As before, the server provides a buffer manager and a FIFO buffer, and provides a means for receiving the sequentially arranged media data elements from the file based media source and storing those data elements in the FIFO buffer.

[0075] The buffer manager comprises means for: receiving the media data; supplying media data in order to the FIFO buffer; supplying the FIFO buffer with a predetermined number of data elements; maintaining a pointer into the buffer for each user computer indicating the last media data element that has been sent to that user, thus indicating the next element or elements to be sent; and, once the FIFO buffer is full, deleting the oldest data element in the buffer as each new data element is received, said means arranged to maintain the predetermined number of data elements in the FIFO buffer. The server buffer manager, or a separate process on the server, or a process on another computer having access to the file based media data, provides for reading the media data file and making available to the FIFO buffer sequentially arranged media data

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elements. At least one user computer is connected to the server via the Internet. The user computer is associated with a media player software incorporating a user buffer and comprises means for receiving and storing a predetermined number of media data elements which are received sequentially by the media player, playing the data out sequentially as audio and/or video, and deleting media data elements from the buffer as they are played out. As data is played out, the next sequential data elements are received from the server in such a fashion as to approximately maintain the predetermined number of data elements in the user's buffer.

[0076] In another embodiment, the server is connected to the Internet and provisioned as initially described. The server buffer manager, or the media source, provides for sequentially numbering the media data elements. The server buffer manager does not maintain a pointer into the server buffer for each user. Instead, the media player buffer manager in the user computer maintains a record of the serial number of the last data element that has been received.

[0077] Via the use of standard data communications protocol techniques such as TCP, the user computer transmits a request to the server to send one or more data elements, specifying the serial numbers of the data elements. The server responds by sending the requested data elements, and depends upon the reliable transmission protocol to assure delivery. The user computer then continues with additional data requests for the duration of playing the audio/video material. In this manner, the user computer, not the server, maintains the record of the highest data element number stored in the user computer buffer. The media data will be transmitted to the user computer as fast as the data connection between the user computer and the server will allow. As before, the server provides a buffer manager and a FIFO buffer, and provides a means for receiving the sequentially numbered media data elements from a broadcast media source or a file based media source, and storing those data elements in the FIFO buffer. The buffer manager comprises means for: receiving the media data; supplying media data in order to the FIFO buffer; supplying the FIFO buffer with a predetermined number of data

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elements; and, once the FIFO buffer is full, deleting the oldest data element in the buffer as each new data element is received.

[0078] Such means is arranged to maintain the pre-determined number of data elements in the FIFO buffer. At least one user computer is connected to the server via the Internet.

[0079] The user computer is associated with a media player software incorporating a user buffer and comprises means for receiving and storing a predetermined number of media data elements which are received sequentially by the media player, playing the data out sequentially as audio and/or video, and deleting media data elements from the buffer as they are played out. As data is played out, the next sequential data elements are requested from the server in such a fashion as to approximately maintain the predetermined number of data elements in the user's buffer.

[0080] In yet another embodiment, the invention provides a method for distributing from a server via the Internet streaming media composed of a plurality of time-sequenced data elements. A predetermined number of the data elements are sequentially loaded into a FIFO buffer. Additional data elements continue to be received.

[0081] As each new data element is input to the buffer, the oldest data element is deleted from the buffer, maintaining in the buffer the same predetermined number of data elements. At the request of a user computer for connection to a media stream, a group of the data elements is sequentially sent via the Internet from the FIFO buffer to the user computer connected to the Internet. Upon being received by the user computer, the sent group of data elements is loaded into a user's buffer associated with the user computer.

[0082] The user's computer immediately begins to play the audio/video streaming media material. The server continues to send the next data elements in sequence until the contents of the FIFO buffer have been sent. The data elements are sent by the

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server as fast as the connection between the server and user computer will allow. Once the contents of the FIFO buffer have been sent to a user computer, as each new data element is received into the FIFO buffer it is immediately sent to the user computer in such a manner as to keep the user computer buffer full. The process repeats for substantially the entire time that the audio/video material is played.

[0083] Unlike conventional buffering systems, audio begins to play on the user system as soon as the user connection to the audio server is effected and a small amount of data has been transferred-conventional systems required many seconds of data. Audio/video media data is initially transmitted from the server more rapidly than it is played out by the user system, until the server buffer has been transferred to the user computer. The user's buffer is built up while the audio is playing, and can be restored if it is diminished by data transmission interruptions. Advantageously, the system and method of this invention afford faster data transmissions than the playback data rate of the media data. Audio/video data is transmitted from the server more rapidly than it is played out by the user system under conditions wherein the user's computer buffer is not full.

[0084] The audio/video data in the user buffer accumulates; interruptions in playback due to temporary Internet and modem delays are avoided. It should be realized that, although the invention has been described hereinabove in connection with a process wherein the server sends buffered media data to the user "as fast as the network connection will permit", it is adequate, as mentioned in this paragraph, that the buffered data be transferred from the server to the user at a rate faster than the playback rate.

[0085] Although the preferred embodiment utilizes a reliable transport mechanism to move data between the server and the user, alternative embodiments could incorporate this invention's buffering system in combination with an unreliable datagram-based transport mechanism.

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[0086] Thus, it can be seen that the present invention provides a system and method for sending streaming media, such as audio or video files, via the Internet. Immediate playing of the media on a user's computer is afforded while reducing interruptions in playback due to Internet congestion and temporary delays. Delayed starts, heretofore required to provide protection against interruption, are avoided. Data loss due to interruptions in the receipt of media data by the media player can be recovered while the player continues to play out the audio or video material. If the interruptions are so severe as to deplete the user's buffer and stop the play out, the media player will begin to play out again as soon as the media player begins to receive media data without waiting to first build up the buffer.

[0087] Having thus described the invention in detail, it should be understood that various changes, substitutions, and alterations may be readily ascertainable by those skilled in the art, and may be made herein without departing from the spirit and scope of the invention as defined by the claims.

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I claim:

1. A method for distributing a live audio or video program over the Internet from a server system to a plurality of user systems, the method comprising:

receiving at the server system a continuous digitally encoded stream for the audio or video program, via a data connection from a live source, in real time, the server system comprising at least one computer;

upon receipt of the stream by the server system,

supplying, at the server system, media data elements representing the program, each media data element comprising a digitally encoded portion of the program and having a playback rate,

serially identifying the media data elements, and

storing the media data elements in a data structure under the control of the server system;

receiving requests at the server system via one or more data connections over the Internet, for one or more of the media data elements stored in the data structure, each received request specifying one or more serial identifiers of the requested one or more media data elements, each received request originating from a requesting user system of a plurality of user systems; and

responsive to the requests, sending, by the server system, the one or more media data elements having the one or more specified serial identifiers, to the requesting user systems corresponding to the requests; wherein

the data connection between the server system and each requesting user system has a data rate more rapid than the playback rate of the one or more media data elements sent via that connection;

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each sending is at a transmission rate as fast as the data connection between the server system and each requesting user system allows;

the one or more media data elements sent are selected without depending on the server system maintaining a record of the last media data element sent to the requesting user systems;

all of the media data elements that are sent by the server system to the plurality of user systems are sent in response to the requests; and

all of the media data elements that are sent by the server system to the requesting user systems are sent from the data structure under the control of the server system as the media data elements were first stored therein.

- 2. The method of claim 1 wherein the serial identifiers are sequential.
- 3. The method of claim 1, wherein the sending is via a reliable transmission protocol.
- 4. The method of claim 3, wherein the reliable transmission protocol is TCP.
- 5. A server system for distributing a live audio or video program over the Internet to a plurality of user systems, the server system comprising:

at least one computer having a connection to the Internet;

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a machine-readable, executable routine containing instructions to cause one of the at least one computers to receive a continuous digitally encoded stream for the live audio or video program, via a data connection from a live source, in real time;

a machine-readable, executable routine containing instructions to cause one of the at least one computers, upon receipt of the stream by the server system,

to supply, at the server system, media data elements representing the program, each media data element comprising a digitally encoded portion of the program and having a playback rate,

to serially identify the media data elements, and

to store the media data elements in a data structure under the control of the server system;

a machine-readable, executable routine containing instructions to cause one of the at least one computers to receive requests at the server system via one or more data connections over the Internet, for one or more of the media data elements stored in the data structure, each received request specifying one or more serial identifiers of the requested one or more media data elements, each received request originating from a requesting user system of a plurality of user systems; and

a machine-readable, executable routine containing instructions to cause one of the at least one computers to send, responsive to the requests, the one or more media data elements having the one or more specified serial identifiers, to the requesting user systems corresponding to the requests; wherein,

the data connection between the server system and each requesting user system has a data rate more rapid than the playback rate of the one or more media data elements sent via that connection;

each sending is at a transmission rate as fast as the data connection between the server system and each requesting user system allows;

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the one or more media data elements sent are selected without depending on the server system maintaining a record of the last media data element sent to the requesting user systems;

all of the media data elements that are sent by the server system to the plurality of user systems are sent in response to the requests; and all of the media data elements that are sent by the server system to the requesting user systems are sent from the data structure under the control of the server system as the media data elements were first stored

6. The server system of claim 5 wherein the serial identifiers are sequential.

therein.

- 7. The server system of claim 5, wherein the sending is via a reliable transmission protocol.
- 8. The server system of claim 7, wherein the reliable transmission protocol is TCP.
- 9. A computer program product for distributing a live audio or video program over the Internet from a server system comprising at least one computer to a plurality of user systems, the computer program product comprising a non-transitory computer readable storage medium having program instructions embodied therewith, the program instructions comprising:

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instructions executable to cause one of the at least one computers to receive a continuous digitally encoded stream for the audio or video program, via a data connection from a live source, in real time;

instructions executable to cause one of the at least one computers, upon receipt of the stream by the server system,

to supply, at the server system, media data elements representing the program, each media data element comprising a digitally encoded portion of the program and having a playback rate,

to serially identify the media data elements, and

to store the media data elements in a data structure under the control of the server system;

instructions executable to cause one of the at least one computers to receive requests at the server system via one or more data connections over the Internet, for one or more of the media data elements stored in in the data structure, each received request specifying one or more serial identifiers of the requested one or more media data elements, each received request originating from a requesting user system of a plurality of user systems; and

instructions executable to cause one of the at least one computers to send, responsive to the requests, the one or more media data elements having the one or more specified serial identifiers, to the requesting user systems corresponding to the requests; wherein,

the data connection between the server system and each requesting user system has a data rate more rapid than the playback rate of the one or more media data elements sent via that connection;

each sending is at a transmission rate as fast as the data connection between the server system and each requesting user system allows;

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the one or more media data elements sent are selected without depending on the server system maintaining a record of the last media data element sent to the requesting user systems;

all of the media data elements that are sent by the server system to the plurality of user systems are sent in response to the requests; and

all of the media data elements that are sent by the server system to the requesting user systems are sent from the data structure under the control of the server system as the media data elements were first stored therein.

- 10. The computer program product of claim 9 wherein the serial identifiers are sequential.
- 11. The computer program product of claim 9, wherein the sending is via a reliable transmission protocol.
- 12. The computer program product of claim 11, wherein the reliable transmission protocol is TCP.

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ABSTRACT

Streaming media, such as audio or video files, is sent via the Internet. The media are immediately played on a user's computer. Audio/video data is transmitted from the server under control of a transport mechanism. A server buffer is prefilled with a predetermined amount of the audio/video data. When the transport mechanism causes data to be sent to the user's computer, it is sent more rapidly than it is played out by the user system. The audio/video data in the user buffer accumulates; and interruptions in playback as well as temporary modem delays are avoided.

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| Filing Date: | | | | | |
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| | Total Files Size (in bytes): | 937646 |

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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.

Doc Code: TRACK1.REQ

Document Description: TrackOne Request

PTO/SB/424 (12-11)

| CERTIFICATION AND REQUEST FOR PRIORITIZED EXAMINATION UNDER 37 CFR 1.102(e) (Page 1 of 1) | | | | | |
|--|--|--|-------------------------------------|--|--|
| First Named Inventor: | Harold Edward PRICE | Nonprovisional Application Number (if known): | | | |
| Title of Invention: | STREAMING MEDIA DELI | VERY SYSTEM | | | |
| | REBY CERTIFIES THE FOLLOWIN ENTIFIED APPLICATION. | G AND REQUESTS PRIORITIZED | EXAMINATION FOR | | |
| CFR 1.1 filed wit | ocessing fee set forth in 37 CFR 1 17(c), and if not already paid, the h the request. The basic filing fee claims and application size fees a | publication fee set forth in 37 CF e, search fee, examination fee, ar | R 1.18(d) have been nd any required | | |
| | The application contains or is amended to contain no more than four independent claims and no more than thirty total claims, and no multiple dependent claims. | | | | |
| 3. The applicable box is checked below: | | | | | |
| I. | Original Application (Track One | e) - Prioritized Examination und | der § 1.102(e)(1) | | |
| | application is an original nonprov rtification and request is being file OR | d with the utility application via E | | | |
| (b) The application is an original nonprovisional plant application filed under 35 U.S.C. 111(a). This certification and request is being filed with the plant application in paper. | | | | | |
| ii. An exe | cuted oath or declaration under 3 | 7 CFR 1.63 is filed with the appli | cation. | | |
| II. <u> </u> | Request for Continued Examina | ation - Prioritized Examination | under § 1.102(e)(2) | | |
| | est for continued examination has polication is a utility application is a | been filed with, or prior to, this for is certification and request is being | | | |

| | 00000000000000000000000000000000000000 | | | | |
|--|--|--|--|--|--|
| Signature /Ernest D. Buff/ | Date October 3, 2016 | | | | |
| Name (Print/Typed) Ernest D. Buff Practitioner Registration Number 25,833 | | | | | |
| Note: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required in accordance with 37 CFR 1.33 and 11.18. Please see 37 CFR 1.4(d) for the form of the signature. If necessary, submit multiple forms for more than one signature, see below*. | | | | | |
| *Total of forms are submitted. | | | | | |

iii. The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a), or is

iv. This certification and request is being filed prior to the mailing of a first Office action responsive

v. No prior request for continued examination has been granted prioritized examination status

a national stage entry under 35 U.S.C. 371.

to the request for continued examination.

under 37 CFR 1.102(e)(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:

- 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.
- 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).
- 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.
- 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.
- 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.

Fig. 1

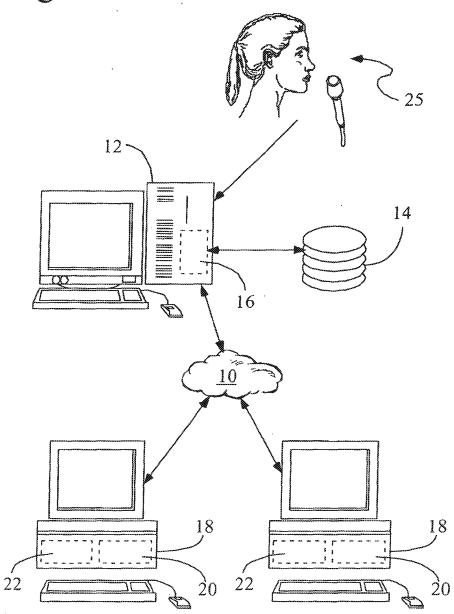
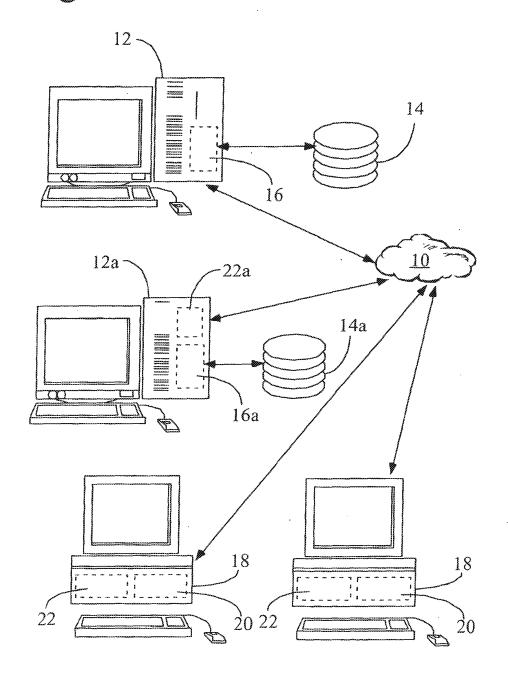
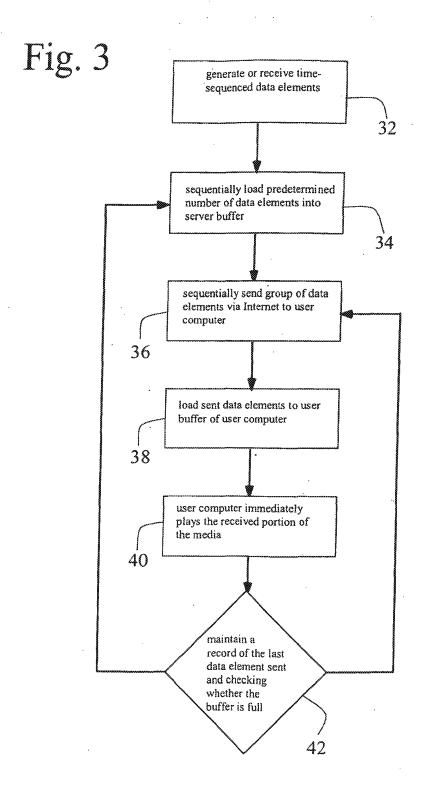


Fig. 2





Attorney's Docket No.: 0021-49 CIP

DECLARATION FOR PATENT APPLICATION SOLE OR JOINT

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention titled:

STREAMING MEDIA BUFFERING SYSTEM

the specification of which is attached hereto.

Prior Foreign Application(s)

I HEREBY STATE THAT I HAVE REVIEWED AND UNDERSTAND THE CONTENTS OF THE ABOVE-IDENTIFIED SPECIFICATION, INCLUDING THE CLAIMS.

I ACKNOWLEDGE THE DUTY TO DISCLOSE INFORMATION WHICH IS MATERIAL TO THE EXAMINATION OF THIS APPLICATION IN ACCORDANCE WITH TITLE 37, CODE OF FEDERAL REGULATIONS, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

| Trior Policies Application(s) | | | Priority Claimed |
|---|---|--|---|
| (Number) | (Country) | (Day/Month/Year Filed) | Yes No |
| | | | |
| (Number) | (Country) | (Day/Month/Year Filed) | Yes No |
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| (Number) | (Country) | (Day/Month/Year Filed) | Yes No |
| SUBJECT MATTER OF EACH OF THI APPLICATION IN THE MANNER PRO ACKNOWLEDGE THE DUTY TO DIS REGULATIONS, §1.56(a) WHICH OCC OR PCT INTERNATIONAL FILING D | DVIDED BY THE FIRST PARAG CLOSE MATERIAL INFOMATIC CURRED BETWEEN THE FILIN ATE OF THIS APPLICATION: | RAPH OF TITLE 35, UNITED STA ON AS DEFINED IN TITLE 37, CO G DATE OF THE PRIOR APPLICA | TES CODE, §112, I DE OF FEDERAL TION AND THE NATIONAL |
| 60/231,997 | | | Pending |
| (Application Serial Number) (F | |) (STATUS: Pa | tented, Pending, Abandoned) |
| 09/819,337 March 28, 2001 | | 100 | Pending |
| (Application Serial Number) | (Filing Date) | (STATUS: Pa | tented, Pending, Abandoned) |
| POWER OF ATTORNEY: As a name transact all business in the Patent and Tra | | | |
| (LIST SENIOR PATENT COUNSEL AT | VID ATTORNEY HANDLING CA | SE WITH PATENT OFFICE REGIS | STRATION NUMBERS.) |
| Ernest D. Buff | | | |
| Name | Name | Acceptable - Accep | Name |
| 25,833 | | | |
| Registration Number | Registration l | Vumber | Registration Number |
| SEND CORRESPONDENCE TO: | Ernest D. Buff, Esq. | | |
| | Emest D. Buff & Associates, l | LLC | |
| | 231 Somerville Road Bedminster, NJ 07921 | | |
| DIRECT TELEPHONE CALLS TO: | Ernest D. Buff (908) 901-0220 | | |

| FULL NAME OF SOLE OR | FIRST INVENTOR Hamile | I Edward Price | ###################################### |
|--|--|--|--|
| INVENTOR'S SIGNATURE | 1/28-2-7/ | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | Dave 7/19/04 |
| RESIDENCE Bethel P: | rk, Pennsylvania (County O | | accordactorum accordactorum |
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| Application Data Sheet 37 CFR 1.76 ⊢ | | Attorney Docket Number | 0021-49-CON4B | |
|--|--|------------------------|---------------|--|
| | | Application Number | | |
| Title of Invention STREAMING MEDIA DELIVERY SYSTEM | | | | |
| 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 pursuar | nt to |
|---|-------|
| ☐ 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.) | |

Inventor Information:

| Invent | or ′ | I | | | | | | | | Re | emove | |
|-----------------------------|------|--------------------------------|---------------------|----|---------------------------------|------|-----------|----------|---------------------|---------|-----------------------|--------|
| Legal I | Vame | | | | | | | | | | | |
| Prefix | Give | n Name | | | Middle Name | • | | | Family I | Vame | | Suffix |
| | Haro | ld | | | Edward | | | | PRICE | | | |
| Resid | ence | Information (| Select One) | • | US Residency | 0 | N | on US Re | sidency (|) Activ | e US Military Service | |
| City | Beth | el Park | | St | ate/Province | PA | | Countr | try of Residence US | | US | |
| • | | | | | | • | | | | | | |
| Mailing | Addr | ess of Invent | or: | | | | | | | | | |
| Address 1 5949 Pudding Ston | | | one Lane | | | | | | | | | |
| Addre | ss 2 | | | | | | | | | | | |
| City Bethel Park | | | | | | St | tate/Prov | /ince | PA | | | |
| Postal Code 15102 | | | Country i US | | | | | | | | | |
| | | s Must Be L ithin this form | | | al Inventor Info Add button. | rmat | ion | blocks | may be | | Add | |

Correspondence Information:

| Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a). | | | | | | | | |
|--|----------------------------------|---------------------|--------------|--|--|--|--|--|
| | | | | | | | | |
| Name 1 | Ernest D. Buff | Name 2 | | | | | | |
| Address 1 | Ernest D. Buff & Associates, LLC | | | | | | | |
| Address 2 | 231 Somerville Road | 231 Somerville Road | | | | | | |
| City | Bedminster | State/Province | NJ | | | | | |
| Country ⁱ US | | Postal Code | 07921 | | | | | |
| Phone Number | 908-901-0220 Fax Number | | 908-901-0330 | | | | | |
| Email Address | EBuff@edbuff.com | Add Email | Remove Email | | | | | |

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| Application | Data She | et 37 CFR 1 | 76 | Attorney Docke | t Number | 0021-49-C | ON4B | | |
| Application | | | | Application Nur | nber | | | | |
| Title of Inventior | n STREA | AMING MEDIA D | ELIVE | RY SYSTEM | | | | | |
| Application | Inform | nation: | | | | | | | |
| Title of the Inve | ention | STREAMING | MEDIA | DELIVERY SYST | EM | | | | |
| Attorney Docke | et Number | 0021-49-CON | 4B | | Small Ent | ity Status | Claimed 🔀 | | |
| Application Typ | ре | Nonprovisiona | ıl | | | | | | |
| Subject Matter | | Utility | | | | | | | |
| Total Number of | of Drawing | Sheets (if any | y) | 3 | Suggeste | ed Figure f | for Publication (if a | ny) | 1 |
| Filing By Re | eferenc | e: | <u> </u> | | <u>'</u> | | | | |
| provided in the appr | opriate secti a filing date u | on(s) below (i.e., "I under 37 CFR 1.53(| Domest (b), the | tic Benefit/National description and any | Stage Informa drawings of t | tion" and "Fo the present a | oreign priority informationeign Priority Information | on"). | |
| Application number filed application | er of the prev | riously Fil | ling dat | e (YYYY-MM-DD) | | Intel | lectual Property Authori | ity or | Country |
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| Publication | n Inforn | nation: | | | | | | | |
| Request Ea | arly Publica | ation (Fee requi | ired at | time of Request | 37 CFR 1.2 | 219) | | | |
| 35 U.S.C. 1 subject of a | I22(b) and an applicati | certify that the | inven her co | tion disclosed in | the attache | d applicatio | n not be published ur on has not and will nal agreement, that i | not b | |
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| this information in Either enter Custo | the Applica omer Numb | tion Data Sheet o er or complete th | does no ne Rep | ot constitute a pow | er of attorney section belo | in the appli | orney in the application cation (see 37 CFR 1.3 ections are completed | 32). | |
| Please Select O | one: | Customer N | lumber | (i) US Pate | nt Practitione | er O L | imited Recognition (37 | 7 CFF | ₹ 11.9) |
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| Mr. | Ernest | |) . | | Buff | | | Rer | nove |
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| Application Da | eta Sheet 37 CFR 1 76 | Attorney Docket Number | 0021-49-CON4B |
|------------------------------------|------------------------|------------------------|---------------|
| Application Data Sheet 37 CFR 1.76 | | Application Number | |
| Title of Invention | STREAMING MEDIA DELIVE | RY SYSTEM | |

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 | of | 13815040 | | 2013-01-25 | | |
| Prior Applicati | on Status | Patented | | | | Rei | nove | |
| Application Number | Cont | inuity Type | Prior Application Number | Filing Date (YYYY-MM-DD) | | ent Number | Issue Date (YYYY-MM-DD) | |
| 13815040 | Continua | tion of | 13385375 | 2012-02-16 | 830 | 64839 | 2013-01-29 | |
| Prior Applicati | on Status | Patented | | | | Rei | nove | |
| Application Number | Cont | inuity Type | Prior Application Number | Filing Date (YYYY-MM-DD) | Pat | ent Number | Issue Date (YYYY-MM-DD) | |
| 13385375 | Continua | tion of | 12800177 | 2010-05-10 | 81 | 85611 | 2012-05-22 | |
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| 12800177 | Continua | tion of | 10893814 | 2004-07-19 7716358 | | 2010-05-11 | | |
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| 10893814 | Continua | tion in part of | 09819337 | 2001-03-28 | 6766376 | | 2004-07-20 | |
| Prior Applicati | on Status | Expired | | • | | Rei | nove | |
| Application N | lumber | Continuity Type | | Prior Application Number | | Filing or 371(c) Date (YYYY-MM-DD) | | |
| 09819337 | | Claims benefit | t of provisional | 60231997 2000- | | 2000-09-12 |)-12 | |
| Prior Applicati | on Status | Patented | | Remove | | | nove | |
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| 10825869 | Continua | tion of | 09819337 | 2001-03-28 | 67 | 66376 | 2004-07-20 | |
| Additional Dome by selecting the | | | ge Data may be ge | nerated within this form | | | | |

Foreign Priority Information:

PTO/AIA/14 (11-15)
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| Application Data Sheet 37 CFR 1.76 | | Attorn | ey Docket Number | 0021-49-CO | N4B | | | |
|---|---|--------|------------------|--------------|-----|--------|--|--|
| Application Data Sheet 37 CFK 1.76 | | | Applic | ation Number | | | | |
| Title of Invention | Fitle of Invention STREAMING MEDIA DELIVERY SYSTEM | | | | | | | |
| | | | | | | | | |
| constitutes the claim for that is eligible for retried automatically attempt of responsibility for ensur | 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) ¹ 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). | | | | | | | |
| | | | | | | Remove | | |
| Application Nur | Application Number Country Filing Date (YYYY-MM-DD) Access Code (if applicable) | | | | | | | |
| | | | | | | | | |
| Additional Foreign Priority Data may be generated within this form by selecting the Add button. | | | | | | | | |

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 Da | eta Shoot 37 CED 1 76 | Attorney Docket Number | 0021-49-CON4B |
|------------------------------------|------------------------|------------------------|---------------|
| Application Data Sheet 37 CFR 1.76 | | Application Number | |
| Title of Invention | STREAMING MEDIA DELIVE | RY SYSTEM | |

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.

- 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

| | py of search results from the instant application without delay in a European patent application that claims priority to e instant application. |
|----|--|
| 2. | Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s) |
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| Application Da | eta Sheet 37 CFR 1 76 | Attorney Docket Number | 0021-49-CON4B |
|------------------------------------|------------------------|------------------------|---------------|
| Application Data Sheet 37 CFR 1.76 | | Application Number | |
| Title of Invention | STREAMING MEDIA DELIVE | RY SYSTEM | |

Applicant Information:

| Applicant 1 | | | | | |
|--------------------------------|---|---|---|--|---|
| • • | d in this se s of the as nt proprieta (assignee, | ection is the name and addr signee, person to whom the ary interest in the matter wh person to whom the invent | ess of the legal represent e inventor is under an obli o is the applicant under 3 or is obligated to assign, o | ative who is igation to as 7 CFR 1.46 or person w | s the applicant under 37 CFR ssign the invention, or person |
| Assignee | | C Legal Representative | under 35 U.S.C. 117 | 0 | Joint Inventor |
| Person to whom the inven | tor is obliga | ated to assign. | O Person who sh | nows suffici | ent proprietary interest |
| If applicant is the legal rep | resentativ | e, indicate the authority | to file the patent applica | ation, the i | nventor is: |
| | | | | | |
| Name of the Deceased or | Legally In | capacitated Inventor: | | · | |
| If the Applicant is an Orga | anization (| check here. | | | |
| Organization Name | NAG ACQI | JISITION, L.L.C. | | | |
| Mailing Address Inform | ation For | Applicant: | | | |
| Address 1 | 3 Gold | Mine Road, Suite 104 | | | |
| Address 2 | | | | | |
| City | Flande | rs | State/Province | NJ | |
| Country ⁱ ∪S | | | Postal Code | 07836 | |
| Phone Number | 973-69 | 1-8717 | Fax Number | 973-69 | 1-7427 |
| Email Address | bill@su | ırfernetwork.com | | • | |

Assignee Information including Non-Applicant Assignee Information:

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PTO/AIA/14 (11-15)

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| Application Data Sheet 37 CFR 1.76 | | | Attorney Doc | ocket Number 0021-49-0 | | -CON4B | | | |
|---|--|-------------|-----------------|------------------------|----------------|----------------|------------------|--------------------------|--|
| | | | Application N | lumber | | | | | |
| Title of Inven | of Invention STREAMING MEDIA DELIVERY SYSTEM | | | | | | | | |
| 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 a patent application | | | gnee-applicant, | complete this s | ection only if | identification | n as an assignee | e is also desired on the | |
| · · · · | · | | | | | | | | |
| If the Assigne | ee or Non-A | Applicant A | Assignee is an | Organization | check here. | | | | |
| Prefix | | Given Na | ame | Middle Nam | ie | Family Na | ame | Suffix | |
| | | | | | | | | | |
| Mailing Addre | ess Inform | ation For | Assignee inc | luding Non-A | pplicant A | ssignee: | | | |
| 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. | | | | | | | | | |
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| Signature | /Ernest D. Buff/ | | | | | Date (| YYYY-MM-DD | 2016-10-03 | |
| First Name | Ernest | | Last Name | Buff | | Regist | ation Number | 25,833 | |
| Additional Signature may be generated within this form by selecting the Add button. | | | | | | | | | |
| | | | | | | | | | |

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| Application Da | eta Sheet 37 CFR 1 76 | Attorney Docket Number | 0021-49-CON4B |
|------------------------------------|------------------------|------------------------|---------------|
| Application Data Sheet 37 CFR 1.76 | | Application Number | |
| Title of Invention | STREAMING MEDIA DELIVE | RY SYSTEM | |

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| Electronic Patent Application Fee Transmittal | | | | | | | |
|---|---------------|---------------------------------|----------|--------|-------------------------|--|--|
| Application Number: | | 15283544 | | | | | |
| Filing Date: | | | | | | | |
| Title of Invention: | | STREAMING MEDIA DELIVERY SYSTEM | | | | | |
| First Named Inventor/Applicant Name: | На | rold Edward Price | | | | | |
| Filer: | ERNEST D BUFF | | | | | | |
| Attorney Docket Number: | | 21-49 CON4B | | | | | |
| Filed as Small Entity | | | | | | | |
| Filing Fees for Utility under 35 USC 111(a) | | | | | | | |
| Description | | Fee Code | Quantity | Amount | Sub-Total in USD(\$) | | |
| Basic Filing: | | | | | | | |
| Pages: | | | | | | | |
| Claims: | | | | | | | |
| Miscellaneous-Filing: | | | | | | | |
| PROCESSING FEE, EXCEPT PROV. APPLS. | | 2830 | 1 | 70 | 70 | | |
| Petition: | | | | | | | |
| Patent-Appeals-and-Interference: | | | | | | | |
| Post-Allowance-and-Post-Issuance: | | | | | | | |

| Description | Fee Code | Quantity | Amount | Sub-Total in USD(\$) |
|--------------------|----------|-----------|--------|-------------------------|
| Extension-of-Time: | | | | |
| Miscellaneous: | | | | |
| | Tot | al in USD | (\$) | 70 |
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| EFS ID: | 27107222 | | | |
| Application Number: | 15283544 | | | |
| International Application Number: | | | | |
| Confirmation Number: | 5655 | | | |
| Title of Invention: | STREAMING MEDIA DELIVERY SYSTEM | | | |
| First Named Inventor/Applicant Name: | Harold Edward Price | | | |
| Customer Number: | 25901 | | | |
| Filer: | ERNEST D BUFF | | | |
| Filer Authorized By: | | | | |
| Attorney Docket Number: | 0021-49 CON4B | | | |
| Receipt Date: | 03-OCT-2016 | | | |
| Filing Date: | | | | |
| Time Stamp: | 16:35:29 | | | |
| Application Type: | Utility under 35 USC 111(a) | | | |

Payment information:

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| Payment Type | Deposit Account |
| Payment was successfully received in RAM | \$70 |
| RAM confirmation Number | 3346 |
| Deposit Account | 061448 |
| Authorized User | Ferrigno, Juliette |

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| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|--------------------|----------------------|--------------|---|---------------------|---------------------|
| 1 | Fee Worksheet (SB06) | fee-info.pdf | 30192 6cc70c134a8e1af9de8ddf31641ee5b424c8 fd01 | no | 2 |

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New International Application Filed with the USPTO as a Receiving Office

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