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 682 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):

Wonjang Baek, Seongnam-si, KOREA, REPUBLIC OF;
John Kim, Seoul, KOREA, REPUBLIC OF;
Seong Baek Lee, Seoul, KOREA, REPUBLIC OF;

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

☒ 1. Receipt is acknowledged of priority papers submitted under 35 U.S.C. 119. The papers have been placed of record in the file.

☒ 2. Applicant's claim for priority, based on papers filed in parent Application Number ________________ submitted under 35 U.S.C. 119, is acknowledged.

☐ 3. The priority papers, submitted ________________, after payment of the issue fee are
☐ acknowledged
  While the priority claim or certified copy filed will be placed in the file record, neither will be reviewed and the patent when published will not include the priority claim.
  See 37 CFR 1.55(a)(2).
☐ not acknowledged since the processing fee in 37 CFR 1.17(i) has not been received.

☐ 4. For utility and plant applications filed on or after November 29, 2000, the priority claim is not entered because the claim was not presented within the time limit required by 37 CFR 1.55(a)(1). A petition to accept a delayed claim for priority under 35 U.S.C. 119(a) - (d) or (f), or 365(a) may be filed. See 37 CFR 1.55(c) and MPEP 201.14(a).

Mideg for:

571-272-4200 or 1-888-786-0101
Application Assistance Unit
Office of Data Management
**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 Fax** (571)-273-885

**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)

49455 7290
STEIN IP, LLC
1400 EYE STREET, NW
SUITE 300
WASHINGTON, DC 20005

**Filing Date:** 03/10/2014

**APPLICATION NO.** 12/457,508
**FILING DATE** 06/12/2009
**FIRST NAMED INVENTOR** Woanjang Baek
**ATTORNEY DOCKET NO.** 0366.1013
**CONFIRMATION NO.** 4330

**TITLE OF INVENTION:** METHOD FOR PROVIDING CHANNEL SERVICE

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**EXAMINER**
**ART UNIT**
**CLASS-SUBCLASS**

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363):
   - [ ] Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
   - [ ] "Fee Address" indication (or "Fee Address" indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list:
   1. Stein IP, LLC
   2. ______________
   3. ______________

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

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

   **(A) NAME OF ASSIGNEE**
   SK PLANET CO., LTD.

   **(B) RESIDENCE: (CITY AND STATE OR COUNTRY)**
   SEOUL, REPUBLIC OF KOREA

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

4a. The following fee(s) are submitted:
   - [ ] Issue Fee
   - [ ] Publication Fee (No small entity discount permitted)
   - [ ] Advance Order - # of Copies ______________

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)
   - [ ] A check is enclosed.
   - [ ] Payment by credit card. Form PTO-2038 is attached.
   - [ ] The Director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number ______________ (enclose a extra copy of this form).

5. **Change in Entity Status (from status indicated above)**
   - [ ] Applicant certifying micro entity status. See 37 CFR 1.29
   - [ ] Applicant asserting small entity status. See 37 CFR 1.27
   - [ ] Applicant changing to regular undiscounted fee status.

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

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

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

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

**Authorized Signature**

**Typed or printed name**

April 11, 2014
**Date**

Registration No. 64,130

Page 2 of 3

FTOL-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

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Filed as Small Entity

## Utility under 35 USC 111(a) Filing Fees

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<td>METHOD FOR PROVIDING CHANNEL SERVICE</td>
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**Payment information:**
- **Submitted with Payment:** yes
- **Payment Type:** Credit Card
- **Payment was successfully received in RAM:** $480
- **RAM confirmation Number:** 2526
- **Deposit Account:**
- **Authorized User:**

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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.
NOTICE OF ALLOWANCE AND Fee(S) DUE

EXAMINER

MESA, JOSE M

ART UNIT

PAPER NUMBER

2484

DATE MAILED: 03/10/2014

APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO.
--- | --- | --- | --- | ---
12/457,508 | 06/12/2009 | Wonjang Baek | 0366.1013 | 4330

TITLE OF INVENTION: METHOD FOR PROVIDING CHANNEL SERVICE

| 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 | 06/10/2014 |

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.
**PART B - FEE(S) TRANSMITTAL**

Complete and send this form, together with applicable fee(s), to: **Mail**
Mailing Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

or **Fax**
(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:**
(Use Block 1 for any change of address)

49455 7590 03/10/2014
STEIN IP, LLC
1400 EYE STREET, NW
SUITE 300
WASHINGTON, DC 20005

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.

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**APPLICATION NO.** 12/457,508  **FILING DATE** 06/12/2009  **FIRST NAMED INVENTOR** Wonjang Baek  **ATTORNEY DOCKET NO.** 0366.1013  **CONFIRMATION NO.** 4330

**TITLE OF INVENTION:** METHOD FOR PROVIDING CHANNEL SERVICE

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**EXAMINER** MESA, JOSE M  **ART UNIT** 2481  **CLASS-SUBCLASS** 386-215000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.563).
   - Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
   - "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
   - (1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
   - (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

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

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

   **(A) NAME OF ASSIGNEE**

   **(B) RESIDENCE:** (CITY AND STATE OR COUNTRY)

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

4a. The following fee(s) are submitted:
   - ☐ Issue Fee
   - ☐ Publication Fee (No small entity discount permitted)
   - ☐ Advance Order - # of Copies

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)
   - ☐ A check is enclosed.
   - ☐ Payment by credit card. Form PTO-2038 is attached.
   - ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number ____________ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
   - ☐ Applicant certifying micro entity status. See 37 CFR 1.29
   - ☐ Applicant asserting small entity status, See 37 CFR 1.27
   - ☐ Applicant changing to regular undiscounted fee status.

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

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

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

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

   **Authorized Signature** __________________________  **Date** __________

   **Typed or printed name** __________________________  **Registration No.** __________________________

Page 2 of 3
Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 410 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 410 day(s).

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 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:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

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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.
Notice of Allowability

Application No. 12/457,508
Examiner JOSE MESA
Applicant(s) BAEK ET AL.
Art Unit 2484
AIA (First Inventor to File) Status 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.

1. ☑ This communication is responsive to 02/14/2014.
   □ A declaration(s)/affidavit(s) under 37 CFR 1.130(b) was/were filed on______.

2. □ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☑ The allowed claim(s) is/are 1, 4-6, 8, 12-17 and 19-30. As a result of the allowed claim(s), you may be eligible to benefit from the Patent Prosecution Highway program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

4. □ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

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

   * Certified copies not received: _____.

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

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☑ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   □ including changes required by the attached Examiner’s Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☑ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner’s comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☑ Notice of References Cited (PTO-892)

2. ☑ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____

3. ☑ Examiner’s Comment Regarding Requirement for Deposit of Biological Material

4. ☑ Interview Summary (PTO-413), Paper No./Mail Date _____

/J. M./
Examiner, Art Unit 2484

/Thai Tran/
Supervisory Patent Examiner, Art Unit 2484
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(Assistant Examiner)  
02/15/2014

THAI TRAN/ Supervisory Patent Examiner. Art Unit 2484  
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U.S. Patent and Trademark Office
Part of Paper No. 20140215
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Wonjang BAEK et al.  
Application No. 12/457,508  
Confirmation No. 4330  
Group Art Unit: 2484  

Filed: June 12, 2009  
Examiner: Jose M. MESA

For: METHOD FOR PROVIDING CHANNEL SERVICE

RESPONSE AND REQUEST FOR RECONSIDERATION UNDER 37 CFR 1.116

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

Sir:

This is in response to the Final Office Action mailed November 26, 2013, and having a period for response set to expire on February 26, 2014.

This response amends at least one independent claim without broadening its scope in any way, namely, claims 1, 8, 21 and 29. Participation into the After Final Consideration Pilot 2.0 is therefore requested. A PTO/SB/434 form is attached.

Reconsideration of the claims is respectfully requested. The following remarks are respectfully submitted.
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### Search Notes

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### INTERFERENCE SEARCH

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/J.M./
Examiner, Art Unit 2484
CERTIFICATION AND REQUEST FOR CONSIDERATION UNDER THE
AFTER FINAL CONSIDERATION PILOT PROGRAM 2.0

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<td>12/457,508</td>
<td>June 12, 2009</td>
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First Named Inventor:
Wonjang BAEK et al.

Title:
METHOD FOR PROVIDING CHANNEL SERVICE

APPLICANT HEREBY CERTIFIES THE FOLLOWING AND REQUESTS CONSIDERATION UNDER THE AFTER FINAL CONSIDERATION PILOT PROGRAM 2.0 (AFCP 2.0) OF THE ACCOMPANYING RESPONSE UNDER 37 CFR 1.116.

1. The above-identified application is (i) an original utility, plant, or design nonprovisional application filed under 35 U.S.C. 111(a) (a continuing application (e.g., a continuation or divisional application) is filed under 35 U.S.C. 111(a) and is eligible under (i)), or (ii) an international application that has entered the national stage in compliance with 35 U.S.C. 371(c).

2. The above-identified application contains an outstanding final rejection.

3. Submitted herewith is a response under 37 CFR 1.116 to the outstanding final rejection. The response includes an amendment to at least one independent claim, and the amendment does not broaden the scope of the independent claim in any aspect.

4. This certification and request for consideration under AFCP 2.0 is the only AFCP 2.0 certification and request filed in response to the outstanding final rejection.

5. Applicant is willing and available to participate in any interview requested by the examiner concerning the present response.

6. This certification and request is being filed electronically using the Office’s electronic filing system (EFS-Web).

7. Any fees that would be necessary consistent with current practice concerning responses after final rejection under 37 CFR 1.116, e.g., extension of time fees, are being concurrently filed herewith. [There is no additional fee required to request consideration under AFCP 2.0.]

8. By filing this certification and request, applicant acknowledges the following:
   • Reissue applications and reexamination proceedings are not eligible to participate in AFCP 2.0.
   • The examiner will verify that the AFCP 2.0 submission is compliant, i.e., that the requirements of the program have been met (see items 1 to 7 above). For compliant submissions:
     o The examiner will review the response under 37 CFR 1.116 to determine if additional search and/or consideration (i) is necessitated by the amendment and (ii) could be completed within the time allotted under AFCP 2.0. If additional search and/or consideration is required but cannot be completed within the allotted time, the examiner will process the submission consistent with current practice concerning responses after final rejection under 37 CFR 1.116, e.g., by mailing an advisory action.
     o If the examiner determines that the amendment does not necessitate additional search and/or consideration, or if the examiner determines that additional search and/or consideration is required and could be completed within the allotted time, then the examiner will consider whether the amendment places the application in condition for allowance (after completing the additional search and/or consideration, if required). If the examiner determines that the amendment does not place the application in condition for allowance, then the examiner will contact the applicant and request an interview.
       • The interview will be conducted by the examiner, and if the examiner does not have negotiation authority, a primary examiner and/or supervisory patent examiner will also participate.
       • If the applicant declines the interview, or if the interview cannot be scheduled within ten (10) calendar days from the date that the examiner first contacts the applicant, then the examiner will proceed consistent with current practice concerning responses after final rejection under 37 CFR 1.116.

Signature
/schung/

Date
February 14, 2014

Name
(Print/Typed)
Sungyop Chung

Practitioner
Registration No.
64,130

Note: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below.

☐ * Total of ________ forms are submitted.
Privacy Act Statement

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency’s responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2905. 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.
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Wonjang BAEK et al. Confirmation No. 4330
Application No. 12/457,508 Group Art Unit: 2484
Filed: June 12, 2009 Examiner: Jose M. MESA

For: METHOD FOR PROVIDING CHANNEL SERVICE

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

Sir:

This is in response to the Final Office Action mailed November 26, 2013, and having a period for response set to expire on February 26, 2014.

This response amends at least one independent claim without broadening its scope in any way, namely, claims 1, 8, 21 and 29. Participation into the After Final Consideration Pilot 2.0 is therefore requested. A PTO/SB/434 form is attached.

Reconsideration of the claims is respectfully requested. The following remarks are respectfully submitted.
AMENDMENTS TO THE CLAIMS

Please AMEND claims 1, 4, 8, 20, 21, 24, 29 and 30, in accordance with the following:

1.  (Currently Amended) A method for providing a channel service by a channel service providing server, the method comprising steps of:

   (a) transmitting fixed information associated with streaming data of the channel service to a playback apparatus supporting a BD-J specification according to a request for the channel service received from the playback apparatus;

   (b) after step (a), transmitting variable information associated with the streaming data to the playback apparatus according to a transmission request for the variable information received from the playback apparatus; and

   (c) after step (b), transmitting the streaming data to the playback apparatus, wherein the fixed information, variable information, and streaming data are different from each other,

   wherein the fixed information includes at least one of BUMF information and SF information associated with the streaming data,

   wherein the transmission request for the variable information is transmitted from the playback apparatus after the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information.

2-3.  (Cancelled)

4.  (Currently Amended) The method in accordance with claim 3, wherein the variable information includes clip information corresponding to each of one or more clips included in the streaming data.

5.  (Original) The method in accordance with claim 4, wherein the step (b) comprises transmitting the clip information to the playback apparatus, and wherein the step (c) comprises transmitting one of the one or more clips corresponding to the clip information to the playback
apparatus according to the transmission request.

6. (Original) The method in accordance with claim 4, wherein the step (b) comprises storing the one or more clips in a circular queue in a storage space.

7. (Cancelled)

8. (Currently Amended) A method for providing a channel service by a playback apparatus supporting a BD-J specification, the method comprising steps of:

(a) receiving fixed information associated with streaming data of the channel service from a channel service providing server according to a request for the channel service included in a user input;

(b) after step (a), configuring a virtual package for a playback of the streaming data based on the fixed information;

(c) after step (b), transmitting a request for variable information associated with the streaming data to the channel service providing server; and

(d) receiving the variable information from the channel service providing server according to the request for variable information;

(e) after step (d), playing the streaming data based on the fixed information and the variable information,

wherein the fixed information, variable information, and streaming data are different from one another,

wherein the fixed information includes at least one of BUMF information and SF information.

9-11. (Cancelled)

12. (Previously Presented) The method in accordance with claim 8, wherein the
variable information includes clip information corresponding to each of one or more clips included in the streaming data.

13. (Previously Presented) The method in accordance with claim 12, wherein the step (d) comprises receiving the clip information, and wherein the step (e) comprises playing one of the one or more clips corresponding to the clip information.

14. (Previously Presented) The method in accordance with claim 12, wherein the fixed information includes playback sequence information on the one or more clips, and wherein the step (e) comprises playing the one or more clips according to the playback sequence information.

15. (Previously Presented) The method in accordance with claim 14, further comprises (f) storing the one or more clips including the streaming data in a storage space.

16. (Original) The method in accordance with claim 15, wherein the one or more clips stored in the storage space are in a circular queue.

17. (Previously Presented) The method in accordance with claim 15, wherein the step (e) comprises reading and playing at least one of the one or more clips stored in the storage space, the at least one being selected according to a user input.

18. (Cancelled)

19. (Previously Presented) A method for providing a channel service, the method comprising steps of:

   by a playback apparatus, transmitting a request for the channel service selected in a channel list to a channel service providing server;

   by the channel service providing server, transmitting BUMF (Binding Unit Manifest File)
information, SF (Signature File) information and playlist information for the selected channel service to the playback apparatus;

by the playback apparatus, performing a package update from a disk package to a virtual package, based on the BUMF information, the SF information and the playlist information;

by the playback apparatus, transmitting a request for a clip information to the channel service providing server after performing the package update;

by the channel service providing server, progressively generating clips constituting streaming data and also generating clip information about each clip;

by the playback apparatus, receiving a first clip and first clip information about the first clip from the channel service providing server according to the request for a clip information and then playing the first clip; and

by the playback apparatus, receiving a second clip and second clip information about the second clip from the channel service providing server and then playing the second clip.

20. (Currently Amended) The method of claim 19, further comprising, when the BUMF information is configured in a manner that the first clip through an n-th clip are sequentially received and played, by the channel service providing server, after generating the n-th clip, configuring subsequent streaming data into another first clip through n-th clip, wherein the n is a natural number equal to or greater than two.

21. (Currently Amended) A method of providing a channel service by a channel service providing server, the method comprising steps of:

(a) transmitting fixed information on format of streaming data of a selected channel service to a playback apparatus;

(b) after step (a), generating one or more clips from the streaming data according to the fixed information;

(c) after step (b), generating variable information on each of the one or more clips when a request for the variable information is received;

(d) after step (c), transmitting the variable information to the playback apparatus
according to a transmission request for the variable information received from the playback apparatus;

(e) after step (d), storing the streaming data including the one or more clips in a storage space of the channel service providing server; and

(f) after step (e), transmitting the streaming data including the one or more clips to the playback apparatus,

wherein the fixed information, variable information, and streaming data are different from one another.

wherein the transmission request for the variable information is transmitted from the playback apparatus after the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information.

22. (Previously Presented) The method in accordance with claim 21, wherein the fixed information includes BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information.

23. (Previously Presented) The method in accordance with claim 21, wherein the fixed information includes signature information and download information of the streaming data, the signature information enabling a verification of the validity of the streaming data, the download information including an order for downloading the one or more clips included in the streaming data.

24. (Currently Amended) The method in accordance with claim 21, wherein the streaming data include a first clip to n-th clip, the n-th clip being downloaded while a (n-1)-th clip is played, the n-th clip being played after the (n-1)-th clip is completely played, wherein the n is a natural number equal to or greater than two.

25. (Previously Presented) The method in accordance with claim 21, wherein when a live broadcasting is provided within a predetermined period of time, step (b) comprising:

(b1) generating the one or more clips from the streaming data corresponding to the
live broadcasting of a first part of the predetermined period of time; and

(b2) generating the one or more clips from the streaming data corresponding to the
live broadcasting of a second part of the predetermined period of time.

26. (Previously Presented) The method in accordance with claim 21, wherein step (c)
comprises generating the variable information associated with the generated clip, before the
entirety of the one or more clips are generated.

27. (Previously Presented) The method in accordance with claim 21, wherein step
(e) comprises storing the one or more clips in circular queue.

28. (Previously Presented) The method in accordance with claim 21, wherein step (f)
comprises transmitting the one or more clips corresponding to clip in formation included in the
variable information upon a transmission request for the one or more clips from the playback
apparatus.

29. (Currently Amended) A method of providing a channel service by a playback
apparatus supporting a BD-J specification, the method comprising steps of:

generating a first request for the channel service according to a user input;

transmitting the first request to a channel service providing server;

receiving fixed information on format of streaming data of a selected channel service
from the channel service providing server, the fixed information including BUMF (Binding Unit
Manifest File) information, SF (Signature File) information and playlist information;

configuring a virtual package apparatus to play the streaming data based on the fixed
information;

transmitting a second request for a variable information on each of one or more clips
generated by the channel service providing server to the channel service providing server after
configuring the virtual package;

receiving the variable information from the channel service providing server;
generating a transmission request for the one or more clips corresponding to clip information included in the variable information; and

receiving the streaming data including the one or more clips from the channel service providing server,

wherein the fixed information, variable information, and streaming data are different from one another.

30. (Currently Amended) The method in accordance with claim 29, wherein the BUMF information is configured in a manner that a first clip through an n-th clip are sequentially received and played, the method further comprising:

sequentially receiving first clip information through n-th clip information generated by the channel service providing server; and

sequentially receiving and playing a clip corresponding to the clip information that has finished downloading,

wherein the n is a natural number equal to or greater than two.
REMARKS

In accordance with the foregoing, claims 1, 4, 8, 20, 21, 24, 29 and 30 have been amended, and claims 1, 4-6, 8, 12-17 and 19-30 are pending and under consideration. No new matter within the meaning of 35 U.S.C. § 132 is presented in this Amendment.

INTERVIEW SUMMARY:

Applicant gratefully acknowledges the personal interview with the Examiner and Supervisory Patent Examiner (SPE) held on February 5, 2014. In the Interview, it was agreed that the combination of the cited prior art in the outstanding Office Action is unreasonable, and therefore is not obvious to one of ordinary skill in the art. Based on this outcome, Applicant believes that the amendments and arguments presented herein are sufficient to overcome the Office Action.

Accordingly, it is respectfully requested that the outstanding objections and rejections be withdrawn in view of the amendments and arguments as presented herein.

CLAIM OBJECTIONS:

Claims 4-6 are objected to because claim 4 depends from claim 3, which was cancelled.

Claim 4 has been amended to refer to claim 1. Claims 5 and 6 depend from claim 4. By this amendment, Applicant believes that this objection is obviated.

Based on the foregoing, this claim objection is respectfully requested to be withdrawn.

REJECTIONS UNDER 35 U.S.C. § 112:

Claims 20, 24 and 30 are rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. Particularly, the Examiner states that the phrase “wherein the n is a natural number equal to or greater than two,” as recited in each of claims 20, 24 and 30, does not have support in the specification.

As submitted in Applicant’s previous Response of September 6, 2013, one page 9, paragraphs 3-6, the phrase “wherein the n is a natural number equal to or greater than two” as recited in claims 20, 24 and 30 is completely supported by the original disclosure.
However, for the sole purpose of advancing the prosecution of this application, the phrase "wherein the n is a natural number equal to or greater than two" has been removed from claims 20, 24 and 30 without prejudice or disclaimer. Because this condition is inherently present in each of claims 20, 24 and 30, this amendment should not change the scope of the claimed invention.

Based on the foregoing, this rejection is respectfully requested to be withdrawn.

REJECTIONS UNDER 35 U.S.C. § 103:


Claim 1 recites, inter alia:

(a) transmitting fixed information ... to a playback apparatus ...

(b) after step (a), transmitting variable information ... to the playback apparatus ...

(c) after step (b), transmitting the streaming data to the playback apparatus, wherein the fixed information, variable information, and streaming data are different from one another ... (Emphasis added)

With regard to the above, the Office Action asserts that Yahata teaches these claim features (see Office Action, page 41, paragraph 3 to page 42, paragraph 1). Specifically, the Examiner provides detailed reasoning why he believes paragraph [0426] of Yahata to be relevant (Office Action, page 7):

... First, Yahata transmits fixed information (i.e. PlayList information) and variable information (i.e. AVClips and Clip information) to the server. Second, the transmitted fixed information and variable information are then stored in a server. Third, the stored fixed information and variable information are sent to playback apparatuses upon request.

Therefore, a user has a choice to request fixed information (i.e. PlayList information) and variable information (i.e. AVClips and Clip information) either as separated fixed information and variable information or as one file, since paragraph 426 does not state that such information is sent as one file to the playback apparatuses upon request. Instead, paragraph 426 of Yahata states
that such fixed information (i.e. PlayList information) and variable information (i.e. AVClips and Clip information) are sent to a server either as one file or as individual fixed information and variable information since it does not say otherwise [A]. On the other hand, the fact that the Applicants claimed transmission of information in a particular order, it does not mean that Yahata does not transmit the same information in the same order and/or similar order. As a matter of fact, since a user has a choice to request fixed information (i.e. PlayList information) and variable information (i.e. AVClips and Clip information) either as separated fixed information and variable information or as one file, then Yahata certainly transmits such information in a specific order upon request [B]. Therefore Yahata anticipates the limitations as claimed. (Underlines and Sentence Identification Character added)

Applicant respectfully submits that the above assessment in the Office Action with regard to Yahata is untrue and incorrect. Specifically, Sentence [A] above is completely false because, on the contrary, paragraph [0426] of Yahata does not state such thing. Rather, paragraph [0426] of Yahata merely describes the assembly of the AVClips and Clip information (alleged "variable information") and PlayList information (alleged "fixed information") into "one file" (see Yahata, paragraph [0426], lines 7-9). No statement can be found in Yahata that those information are sent to a server "either as one file or as individual fixed information and variable information" as asserted by the Examiner.

Furthermore, it is absolutely unreasonable to regard failing to say something (the phrase "since it does not say otherwise" in Sentence [A] above) as teaching thereof.

Moreover, Sentence [B] above is also untrue and incorrect, for at least the following reasons:

First, there is no teaching or suggestion in Yahata with regard to the alleged user's choice "to request fixed information (i.e. PlayList information) and variable information (i.e. AVClips and Clip information) either as separated fixed information and variable information or as one file" as asserted above in Sentence [B]. This is pure speculation by the Examiner, which is not based on the actual teachings of Yahata.

Second, assuming arguendo the user has a choice, as asserted by the Examiner, this does not necessarily mean that the PlayList information is sent first, and then, the AVClips and Clip information is sent second, and then, unidentified data stream is sent to a playback apparatus. The Examiner heavily relies on the assumption that the alleged user's choice may occur in this order. However, this attempt does not establish a prima facie case of anticipation or obviousness. "The fact that a certain result or characteristic may occur or be present in the
prior art is not sufficient to establish the inherency of that result or characteristic.” MPEP § 2112.4 (citing to In re Rijckaert, 9 F.3d 1531, 1534, (Fed. Cir. 1993)) (emphasis added).

Yahata fails to teach the particular order of steps (a), (b), and (c); rather, it teaches merely that any combination of information may be provided at a given time. Nothing in Yahata teaches or suggests that, for instance, the PlayList information might be requested completely separate from the Clip information, or that it might be advantageous to do so, much less that said information might be requested in a particular order. The Examiner’s argument effectively reads out the explicit limitations of claim 1 that step (b) be a distinct action occurring after the distinct action of step (a), and that step (c) be a distinct action occurring after step (b).

The new reference, Tanaka, was cited against a different aspect of claim 1 (see Office Action, page 9, paragraph 1), but fails to cure the deficiencies of Yahata as discussed above.

Accordingly, assuming arguendo Yahata, Takashima, Chen, and Tanaka can be combined and a reasonable expectation of success exists, the combined reference still do not teach at least “(a) transmitting fixed information … to a playback apparatus …; (b) after step (a), transmitting variable information … to the playback apparatus …; (c) after step (b), transmitting the streaming data to the playback apparatus, wherein the fixed information, variable information, and streaming data are different from one another …” as recited in claim 1. Thus, it is noted that claim 1 is allowable over the cited prior art, whether taken alone or in combination.

Claim 8 is rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Yahata in view of Takashima, and further in view of Chen.

Claim 8 recites, inter alia:

(a) receiving fixed information …
(b) after step (a), …;
(c) after step (b), receiving variable information …

wherein the fixed information, variable information, and streaming data are different from one another …

The Examiner substantially repeats the argument as applied to claim 1. While, in the
Office Action, page 14, paragraph 2, the new reference Tanaka is cited against steps (b)-(d) as recited in claim 8, it does not teach such specific order of the claimed method. Contrary to the Office Action, Figs. 19, 22 and 24 and paragraphs [0181]-[0191] of Tanaka fail to teach or suggest such features of claim 8. Thus, Applicant’s arguments as applied to claim 1 above are also applied to claim 8, *mutatis mutandis*.

Claims 4, 5, 10-15 and 17 depend upon claim 1 or 8, and are therefore deemed allowable for at least this reason.

Based on the foregoing, withdrawal of this rejection is respectfully requested.


Claim 6 depends upon claim 1, and that Berger does not address the failure of Yahata, Takashima, Chen, and Tanaka to teach or suggest all the limitations of claim 1. Claim 6 is therefore allowable over the cited references for at least the same reasons as set forth regarding claim 1.

Claim 16 depends upon claim 8, and that Berger does not address the failure of Yahata, Takashima, Chen, and Tanaka to teach or suggest all the limitations of claim 8. Claim 16 is therefore allowable over the cited references for at least the same reasons as set forth regarding claim 8.

Based on the foregoing, withdrawal of this rejection is respectfully requested.

3. Claims 19 and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Takashima in view of Yahata, Chen, and Tanaka.

Claim 19 recites, *inter alia*:

by the channel service providing server, transmitting BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information for the selected channel service to the playback apparatus...

The Examiner argues that Takashima teaches “transmitting BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information for the
selected channel service to the playback apparatus”.

In the Amendment filed January 9, 2013, Applicants argued on page 13:

[Takashima] fails to disclose the transmission of all three information, i.e., BUMF, SF and playlist, from a server to a playback apparatus. Thus, it is clear that Takashima does not teach “by the channel service providing server, transmitting BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information for the selected channel service to the playback apparatus,” as recited in claim 19 (emphasis added).

In the outstanding Office Actions, Examiner reiterates the previous position (Office Action, page 26, paragraph 2):

...[I]t should be note[d] that BUMF, SF and playlist are transmitted from a server to a playback apparatus, since the BUMF includes a playlist as clearly shown in figures 11 and 16 which describes (a) BUMF before updating and (b) BUMF after updating; wherein fig. 16 describes generating/updating by information processing device (i.e. player device).

Applicant notes that it actually supports Applicant's argument, not Examiner's. Examiner states correctly that Takashima teaches a BUMF is generated and updated on the information processing device. As previously noted, the Examiner also argues that the information processing device is analogous to the playback apparatus. However, the limitation in question requires that the BUMF be transmitted by the channel service providing server, and to the playback apparatus. In contrast, Takashima repeatedly states that the BUMF is generated and updated on the information processing device (according to the Examiner, the playback apparatus) (see inter alia FIG. 11 S108, and ¶¶ 0113, 0123, and 0178), and transmitted to the server (see inter alia FIG. 11 S109, and ¶¶ 0196, 0218, and 0239).

It is further noted that the Examiner appears to argue that the BUSF of Takashima is analogous to the SF information. Without admission as to the correctness of this interpretation, Applicants note that the BUSF is generated by the server and sent to the information processing device in response to receipt of the BUMF (see FIG. 11 S110 and S111). This, therefore, further teaches against the limitation at issue, as the BUMF can never come from the same source as the BUSF.

In other words, Takashima not only fails to teach or suggest the limitation of transmitting the BUMF from the server to the playback apparatus, it teaches against it. It further teaches against transmitting the BUMF and SF information from the same source to the same
destination, regardless of whether the source is analogous to the server, or the destination to the playback apparatus. Neither Yahata nor Chen overcome this gross deficiency of Takashima.

In the outstanding Office Action, page 26, paragraph 3, the Examiner asserts that "[f]urthermore, the Applicants stated above that 'the BUSF is generated by the server and sent to the information processing device in response to the receipt of the BUMF (see FIG. 11 S110 and S111). This, therefore, further teaches against the limitation at issue, as the BUMF can never come from the same source as the BUSF.' First, the Examiner respectfully disagrees. Second, there is NO a single limitation claiming what the Applicants asserted above." (Underline added). Applicant respectfully notes that the Examiner profoundly misunderstood Applicant's statement above. The statement "the BUSF is generated by the server and sent to the information processing device in response to the receipt of the BUMF (see FIG. 11 S110 and S111). This, therefore, further teaches against the limitation at issue, as the BUMF can never come from the same source as the BUSF" is directed to what Takashima actually teaches, not the claim limitations.

Accordingly, it is respectfully submitted that claim 19 is allowable over Takashima in view of Yahata, Chen, and Tanaka, whether taken alone or in combination. Claim 20 depends upon claim 19 and is therefore allowable over the cited references for at least the same reasons.

Based on the foregoing, withdrawal of this rejection is respectfully requested.

4. Claims 21, 26 and 28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yahata in view of Chen, and in further view of Tanaka.

Claim 21 is rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Yahata in view of Chen.

Claim 21 recites, inter alia:

(a) transmitting fixed information ...;
(b) after step (a), ...;
(c) after step (b), ...;
(d) after step (c), transmitting the variable information ...;
(e) after step (d), ...; and
(f) after step (e), transmitting the streaming data including the one or more clips to the playback apparatus,
wherein the fixed information, variable information, and streaming data are different from one another ...

The Examiner repeats the same argument applied to claim 1 to argue Yahata teaches or suggests that transmission of the fixed information is a distinct action that occurs before transmission of the variable information. Moreover, new cited reference Tanaka fails to cure the deficiencies of Yahata in view of Chen. Hence, without admission as to the correctness of Examiner’s other arguments, Applicants respond to this argument in the same manner as with claim 1 above, mutatis mutandis.

The limitation of claim 21 that step (d) be a distinct action occurring after step (c) (and, by extension, step (a)), or that step (f) be a distinct action occurring after step (e) (and, by extension, step (d)) is neither taught nor suggested by Yahata, by itself or in combination with Chen and Tanaka.

Claims 26 and 28 depend upon claim 21 and are therefore allowable over the cited references for at least the same reasons.

Based on the foregoing, withdrawal of this rejection is respectfully requested.

5. Claims 22 and 23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yahata in view of Chen, Tanaka, and Takashima.

Claims 22 and 23 depend upon claim 21, and that Takashima does not address the failure of Yahata, Chen, and Tanaka to teach or suggest all the limitations of claim 21. Claims 22 and 23 are therefore patentable over the cited references for at least the same reasons as set forth regarding claim 21.

Based on the foregoing, withdrawal of this rejection is respectfully requested.


Claim 24 depends upon claim 21 and that Seo does not address the failure of Yahata,
Chen, and Tanaka to teach or suggest all the limitations of claim 21. Claim 24 is therefore patentable over the cited references for at least the same reasons as set forth regarding claim 21.

Based on the foregoing, withdrawal of this rejection is respectfully requested.


Claim 25 depends upon claim 21 and that Svanbro does not address the failure of Yahata, Chen, and Tanaka to teach or suggest all the limitations of claim 21. Claims 25 is therefore patentable over the cited references for at least the same reasons as set forth regarding claim 21.

Based on the foregoing, withdrawal of this rejection is respectfully requested.

8. Claim 27 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Yahata in view of Chen and Tanaka, and in further view of Berger.

Claim 27 depends upon claim 21 and that Berger does not address the failure of Yahata, Chen, and Tanaka to teach or suggest all the limitations of claim 21. Claim 27 is therefore patentable over the cited references for at least the same reasons as set forth regarding claim 21.

Based on the foregoing, withdrawal of this rejection is respectfully requested.

9. Claim 29 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Takashima in view of Chen and Tanaka.

Claim 29 recites, inter alia:

A method of providing a channel service by a playback apparatus supporting a BD-J specification, the method comprising steps of...

receiving fixed information on format of streaming data of a selected channel service from the channel service providing server, the fixed information including BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information...
The Examiner repeats substantially the same argument applied to claim 19 to argue Takashima teaches or suggests that BUMF information, SF information, and playlist information are all received by the playback apparatus. Without admission as to the correctness of the Examiner’s other arguments, Applicants respond to this argument in the same manner as with claim 19 above, mutatis mutandis.

The limitations of claim 29 that the BUMF be received, not generated, by the playback apparatus, and that the SF information be received by the same destination as the BUMF, is neither taught nor suggested by Takashima, by itself or in combination with Yahata, Chen, and Tanaka. Indeed, Takashima teaches against these limitations.

Based on the foregoing, withdrawal of this rejection is respectfully requested.

10. Claim 30 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Takashima in view of Chen, Tanaka, and Seo.

Claim 30 depends upon claim 29 and that Seo does not address the failure of Takashima, Yahata, Chen, and Tanaka to teach or suggest all the limitations of claim 21. Claim 30 is therefore patentable over the cited references for at least the same reasons as set forth regarding claim 29.

Based on the foregoing, this rejection is respectfully requested to be withdrawn.
CONCLUSION:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

STEIN IP, LLC

Date: February 14, 2014

By: [Signature]

Sungyeop Chung
Registration No. 64,130

1400 Eye St., N.W.
Suite 300
Washington, D.C. 20005
Telephone: (202) 216-9505
Facsimile: (202) 216-9510
## Electronic Acknowledgement Receipt

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**Title of Invention:** Method for providing channel service

**First Named Inventor/Applicant Name:** Wonjang Baek

**Customer Number:** 49455

**Filer:** Sungyeop Chung/Sabrina Maya

**Filer Authorized By:** Sungyeop Chung

**Attorney Docket Number:** 0366.1013

**Receipt Date:** 14-FEB-2014

**Filing Date:** 12-JUN-2009

**Time Stamp:** 19:58:27

**Application Type:** Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment: no

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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.
**REPLY/AMENDMENT FEE TRANSMITTAL**

**Application Number**: 12/457,508  
**Filing Date**: June 12, 2009  
**First Named Inventor**: Wonjae BAEK  
**Group Art Unit**: 2484

**AMOUNT ENCLOSED**: $0.00  
**Examiner Name**: Jose M. MESA

### FEE CALCULATION (fees effective 3/19/2013)

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Since an Official Action set an original due date of February 26, 2014, petition is hereby made for an extension to cover the date this reply is filed, for which the requisite fee is enclosed: (1 month ($200)); (2 months ($600)); (3 months ($1,400)); (4 months ($2,200)); (5 months ($3,000)); Notice of Appeal is enclosed (37 CFR 41.20(b)(1): $800.00)  
Information Disclosure Statement is enclosed and fee is required (37 CFR 1.17(p): $180.00)  
Total of above calculations $0.00  
Reduction by 50% for filing by small entity (37 CFR 1.27) - $  
Reduction by 75% for filing by micro entity (37 CFR 1.29) - $  
Total of above calculations $0.00  
Statutory Disclaimer is enclosed (37 CFR 1.20(d): $160.00) $0.00  
TOTAL FEES DUE $0.00

☐ A previous micro entity status is no longer appropriate and is hereby cancelled under 37 CFR 1.29(i).

### METHOD OF PAYMENT

☐ Check enclosed as payment. ☐ Credit Card Payment Form, Form PTO-2038 (attached).

☐ Charge "TOTAL FEES DUE" to the Deposit Account No. below.

☐ Payment authorized and made via EFS-Web.

☒ No payment is enclosed and no charges to the Deposit Account are authorized at this time (unless specifically required to obtain a filing date).

### GENERAL AUTHORIZATION

☒ If the above-noted "AMOUNT ENCLOSED" is not correct, the Commissioner is hereby authorized to credit any overpayment or charge any additional fees necessary to:

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The Commissioner is also authorized to credit any overpayments or charge any additional fees required under 37 CFR 1.16 (filing fees) or 37 CFR 1.17 (processing fees) during the prosecution of this application, including any related application(s) claiming benefit hereof pursuant to 35 U.S.C. § 120 (e.g., continuations/divisionals/CIPs under 37 CFR 1.53(b) and/or continuations/divisionals/CPAs under 37 CFR 1.53(d)) to maintain pendency hereof or of any such related application.

**SUBMITTED BY**: STEIN IP, LLC

<table>
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<th>Sungyeop Chung</th>
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PATENT APPLICATION FEE DETERMINATION RECORD
Application or Docket Number 12/457,508
Filing Date 06/12/2009

APPLICATION AS FILED – PART I

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APPLICATION SIZE FEE (37 CFR 1.16(a))

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FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))

TOTAL ADD'L FEE 0

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FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))

TOTAL ADD'L FEE

LIE
/JACQUELYN WILLIAMS/

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

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

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

docketing@steinip.com
Office Action Summary

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.  
- Extensions of time may be available under the provisions of 37 CFR 1.136(a).  In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.  
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.  
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).  
Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☑ Responsive to communication(s) filed on 09/06/2013.
   □ A declaration(s)/affidavit(s) under 37 CFR 1.130(b) was/were filed on _____.
2a) ☑ This action is FINAL.  
2b)☐ This action is non-final.
3) ☑ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
4) ☑ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5) ☑ Claim(s) 1, 4-6, 8, 12-17 and 19-30 is/are pending in the application.  
   5a) Of the above claim(s) _____is/are withdrawn from consideration.
6) □ Claim(s) _____ is/are allowed.
7) ☑ Claim(s) 1, 4-6, 8, 12-17 and 19-30 is/are rejected.
8) □ Claim(s) _____ is/are objected to.
9) □ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, 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.

Application Papers

10)☐ The specification is objected to by the Examiner.
11) ☑ The drawing(s) filed on _____ is/are: a) ☑ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

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)
2) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
   Paper No(s)/Mail Date _____.
3)☐ Interview Summary (PTO-413)  
   Paper No(s)/Mail Date: _____.
4)☐ Other: _____.
The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Claim Objections

Claims 4-6 objected to because of the following informalities: Examiner believes that Applicant intends to amend claim 4 to depend from claim 1 since claim 3 was canceled from which claim 4 previously depended from. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 20, 24 and 30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. For instance, Claim 20 recites “when the BUMF information is configured in a manner that the first clip through an n-th clip are sequentially received, by the service providing server, after generating the n-th clip, configuring subsequent streaming data into another first clip through n-th clip, wherein the n is a natural number equal to or greater than two”
Claim 24 recites “wherein the streaming data include a first clip to n-th clip, the n-th clip being downloaded while a (n-1)-th clip is played, the n-th clip being played after the (n-1)-th clip is completely played, wherein the n is a natural number equal to or greater than two”

And claim 30 recites “wherein the BUMF information is configured in a manner that a first clip through an n-th clip are sequentially received and played, the method further comprising: sequentially receiving first clip information through n-th clip information generated by the channel service providing server; and sequentially receiving and playing a clip corresponding to the clip information that has finished downloading, wherein the n is a natural number equal to or greater than two”

NOTE: the newly added underlined part of the claim limitation does not have support in the specification; for instance, the terms "wherein the n is a natural number equal to or greater than two." Therefore, the above claim is rejected under 35 U.S.C. 112, first paragraph.

Response to Arguments

Applicants’ arguments filed on 09/06/2013 with respect to claims 1, 4-6, 8, 12-17 and 19-30 have been fully considered but they are moot in view of the new ground(s) of rejection necessitated by Applicants’ amendment.

In re page 9, applicants state that “Claims 20, 24, and 30 are rejected under 35 U.S.C. § 112, first paragraph, as allegedly claiming subject matter not found in the
specification. Specifically, Examiner argues that the limitation "wherein the "n" is a natural number equal to or greater than two," present in all three claims, is not disclosed in the specification. Applicants respectfully disagree with Examiner’s interpretation of the specification. It is first noted that, in all three claims rejected above, "n" refers to a number of clips to be played. In the specification, an "n" number of clips is disclosed as follows in ¶ 0103 (paragraph numbering is as in the application as published: U.S. Patent Application Publication No. 2009/0316776 A1): For instance, when BUMF information is configured in a manner that a first clip through an nth clip are sequentially received and played, the channel service providing server constitutes the streaming data to include the first clip through the nth clip and generate a first clip information through an nth clip information associated with the first clip through the nth clip, respectively. Applicants assert that "a first clip through an nth clip" cannot be "sequentially received and played" (emphasis added) unless there are at least two such clips. Therefore, support for the limitation is provided in at least ¶ 0103 of the specification. Therefore, Applicants respectfully request withdrawal of this rejection.”

(1) In response, the Examiner respectfully disagrees. The Applicants state that paragraph 103 of the specification has support for claims 20, 24 and 30 rejected under 35 U.S.C. § 112, first paragraph because "a first clip through an nth clip" cannot be "sequentially received and played" unless there are at least two such clips. However, it does not mean that “the n is a natural number equal to or greater than two” as claimed. Therefore, the rejection of claims 20, 24 and 30 under 35 U.S.C. § 112, first paragraph is herein maintained.
In re page 10, applicants state that “Claim 1 recites, inter alia: A method for providing a channel service ... comprising steps of: (a) transmitting fixed information ... (b) after step (a), transmitting variable information ... (c) after step (b), transmitting the streaming data ... In the Amendment filed January 9, 2013, Applicants argued on page 10: No teaching or suggestion is found in Yahata that the AVClips and Clip information (alleged “variable information”) are transmitted to the playback apparatus after the PlayList information (alleged "fixed information") is transmitted to the same apparatus. Yahata not only does not teach the particular order of steps (a), (b), and (c), but it does not teach them as distinct actions at all; rather, it teaches merely that any combination of information may be provided at a given time. Nothing in Yahata teaches or suggests that, for instance, the PlayList information might be requested completely separate from the Clip information, or that it might be advantageous to do so, much less that said information might be requested in a particular order. To leap from Yahata to the claimed features is similar to arguing that a disclosure of an unorganized pile of car parts makes obvious a functioning car, because someone could choose to arrange them in such a configuration. Examiner’s argument effectively reads out the explicit limitations of claim 1 that step (b) be a distinct action occurring after the distinct action of step (a), and that step (c) be a distinct action occurring after step (b). These limitations are neither taught nor suggested by Yahata, by itself or in combination with Takashima and Chen.”

(2) In response, the Examiner respectfully disagrees. The reference of Yahata discloses in figs. 1, 33 paragraphs 93-94, 429 that “The playback apparatus 300 is
also able to download content from a server 700 of a movie distributor via a network”

**NOTE:** in which the network as illustrated in figure 1 is used by the server to transmit such information to the playback apparatus, and the server is used as the channel service provider for providing content to the playback apparatus.

And in figs. 14 & 16 paragraphs 185-186 that “a file (00002.mpls) to which extension "mpls" is attached is information that defines a group made by binding up two types of playback paths called MainPath and Subpath as playlist (PL)”

And in fig. 22 paragraph 239 that “the temporal transition of the total transmission amount is as shown by the solid curve; the total data amount is the sum amount of TS packets belonging to streams that have been allowed in the STN table”

And in paragraph 426 that “PlayList information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request”

**NOTE:** in which PlayList information is fixed information.

And also in paragraph 426 that “AVClips, Clip information making up one pieces of volume data are obtained. AVClips, Clip information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request”

**NOTE:** in which the AVClips, Clip information are variable information associated with the streaming data. Furthermore, it should be noted that Yahata transmits fixed
information (i.e. PlayList information) and variable information (i.e. AVClips and Clip information) to playback apparatuses as clearly described in paragraph 426, for example. First, Yahata transmits fixed information (i.e. PlayList information) and variable information (i.e. AVClips and Clip information) to the server. Second, the transmitted fixed information and variable information are then stored in a server. Third, the stored fixed information and variable information are sent to playback apparatuses upon request.

Therefore, a user has a choice to request fixed information (i.e. PlayList information) and variable information (i.e. AVClips and Clip information) either as separated fixed information and variable information or as one file, since paragraph 426 does not state that such information is sent as one file to the playback apparatuses upon request. Instead, paragraph 426 of Yahata states that such fixed information (i.e. PlayList information) and variable information (i.e. AVClips and Clip information) are sent to a server either as one file or as individual fixed information and variable information since it does not say otherwise. On the other hand, the fact that the Applicants claimed transmission of information in a particular order, it does not mean that Yahata does not transmit the same information in the same order and/or similar order. As a matter of fact, since a user has a choice to request fixed information (i.e. PlayList information) and variable information (i.e. AVClips and Clip information) either as separated fixed information and variable information or as one file, then Yahata certainly transmits such information in a specific order upon request. Therefore Yahata anticipates the limitations as claimed.
From the above passages, Yahata indeed discloses the claimed limitations “(a) transmitting fixed information (see figs. 1, 14, 16, 22 ¶s 93-94, 185-186, 239, 426, 429 for transmitting fixed information) ... (b) after step (a), transmitting variable information associated with the streaming data to the playback apparatus” (see ¶ 426 for transmitting variable information associated with the streaming data to the playback apparatus)

In re pages 11-12, applicants state that “Furthermore, claim 1 has been amended to recite the following features: (b) after step (a), transmitting variable information associated with the streaming data to the playback apparatus according to a transmission request for the variable information received from the playback apparatus; and wherein the transmission request for the variable information is transmitted from the playback apparatus after the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information. (emphasis added) None of Yahata, Takashima, and Chen teaches such features of claim 1. Hence, assuming arguendo the three cited references can be combined and a reasonable expectation of success exists, the combined references still do not disclose such features of claim 1. Accordingly, it is respectfully submitted that claim 1 is allowable over Yahata, Takashima, and Chen, whether take alone or in combination.

Therefore, Applicants respectfully request withdrawal of this rejection.”

(3) In response, as discussed above in (2) with respect to claim 1, Yahata discloses the above claimed limitations of claim 1.
On the other hand, the NEW reference of Tanaka also discloses “(b) after step (a), transmitting a variable information associated with the streaming data to the playback apparatus according to a transmission request for the variable information received from the playback apparatus” (see figs. 19, 22, 24 ¶s 181-191, 195 for transmitting a variable information (i.e. AVClips, Clip information) associated with the streaming data to the playback apparatus according to a transmission request for the variable information received from the playback apparatus); “wherein the transmission request for the variable information is transmitted from the playback apparatus after the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information” (see figs. 19, 22, 24 ¶s 181-191, 195 for the transmission request for the variable information is transmitted from the playback apparatus after the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information. In which paragraphs 181-191 describe the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information (i.e. Playlist) and paragraph 195 describes the transmission request for the variable information (i.e. AVClips, Clip information) is transmitted from the playback apparatus)

In re page 12, applicants state that “Claims 3-5 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Yahata and Takashima, and further in view of Chen. Without admission as to the correctness of Examiner’s other arguments,
Applicants note that claims 4 and 5 depend upon claim 1 and are therefore patentable over the cited references for at least the same reasons. Claim 3 has been cancelled without prejudice or disclaimer, thereby rendering the rejection thereof moot. Therefore, Applicants respectfully request withdrawal of this rejection. Claim 6 is rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Yahata, Takashima, and Chen, and in further view of Berger (U.S. Patent Application Publication No. 2007/0198468). Without admission as to the correctness of Examiner's other arguments, Applicants note that claim 6 depends upon claim 1, and that Berger does not address the failure of Yahata, Takashima, and Chen to teach or suggest all the limitations of claim 1. Claim 6 is therefore patentable over the cited references for at least the same reasons as set forth regarding claim 1. Therefore, Applicants respectfully request withdrawal of this rejection.”

(4) In response, as discussed above in (2), (3) with respect to claim 1, the combination of Yahata and Tanaka discloses the above claimed limitations of claim 1.

In re pages 12-13, applicants state that “Claim 8 recites, inter alia:
A method for providing a channel service ... comprising steps of: (a) receiving fixed information ... (b) after step (a), ... (c) after step (b), receiving variable information ...
Examiner repeats the same argument applied to claim 1 to argue Yahata teaches or suggests that reception of the fixed information is a distinct action that occurs before reception of the variable information. Without admission as to the correctness of Examiner's other arguments, Applicants respond to this argument in the same manner
as with claim 1 above, mutatis mutandis. The limitation of claim 8 that step (c) be a distinct action occurring after the distinct action of step (b) (and, by extension, step (a)) is neither taught nor suggested by Yahata, by itself or in combination with Takashima and Chen. Furthermore, claim 8 has been amended to recite the following features: (a) receiving fixed information associated with streaming data of the channel service from a channel service providing server according to a request for the channel service included in a user input; (b) after step (a), configuring a virtual package for a playback of the streaming data based on the fixed information; (c) after step (b), transmitting a request for variable information associated with the streaming data to the channel service providing server; and (d) receiving the variable information from the channel service providing server according to the request for variable information; (emphasis added). None of Yahata, Takashima, and Chen teaches such features of claim 8. Hence, assuming arguendo the three cited references can be combined and a reasonable expectation of success exists, the combined references still do not disclose such features of claim 8. Accordingly, it is respectfully submitted that claim 8 is allowable over Yahata, Takashima, and Chen, whether take alone or in combination. Therefore, Applicants respectfully request withdrawal of this rejection."

(5) In response, the Examiner respectfully disagrees. As discussed above in (2), (3) with respect to claim 1, which is also applicable to claim 8, and furthermore, Yahata discloses “(a) receiving a fixed information associated with a streaming data of the channel service from a channel service providing server according to a request for the channel service included in a user input” (see fig. 30 ¶ 347 “each of the decoders
receives elementary streams”), (see figs. 1, 33 ¶s 93-94, 429 “The playback apparatus 300 is also able to download content from a server 700 of a movie distributor via a network” in which the network as illustrated in figure 1 is used by the server to transmit such information to the playback apparatus; hence, the channel service providing server are such servers. However, the reference of Chen discloses below the channel service providing server), (see figs. 14 & 16 ¶s 185-186 “a file (00002.mpls) to which extension "mpls" is attached is information that defines a group made by binding up two types of playback paths called MainPath and Subpath as playlist (PL)” which are fixed information), (see ¶ 426 “PlayList information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request” in which PlayList information is fixed information), (see fig. 30 ¶ 395 “the operation receiving unit 26 receives specification of an operation made by a user on the remote controller”); “(b) after step (a), configuring a virtual package for a playback of the streaming data based on the fixed information” (see fig. 1 ¶s 94, 590 “The BD-ROM playback apparatus may be caused to perform a process of creating Virtual Package.” In which configuring/creating a virtual package for a playback of the streaming data based on the fixed information), (see fig. 12 ¶s 162-163 “the MainPath is a playback path that is defined in terms of a video stream, such as the main video, and an audio stream”); “(c) after step (b), transmitting a request for a variable information associated with the streaming data to the channel service providing server” (see ¶ 426 “AVClips,
Clip information making up one pieces of volume data are obtained. AVClips, Clip information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request” in which variable information (i.e. AVClips, Clip information) associated with the streaming data are transmitted from channel service providing server (i.e. server) to the playback apparatus upon request); “and (d) receiving the variable information from the channel service providing server according to the request for variable information” (see ¶ 426 “AVClips, Clip information making up one pieces of volume data are obtained. AVClips, Clip information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request” when the playback apparatus makes a request for the variable information (i.e. AVClips, Clip information) to the channel service providing server (i.e. server), the playback apparatus will receive the variable information from the channel service providing server according to the request for variable information)

Furthermore, Chen also discloses “a channel service providing server” (see fig. 3 ¶s 40-41 (channel service providing server (i.e. Process unit 102)) “Process unit 102 is used for responding to service information inquiries, receiving requests from subscriber terminal 200, updating the authorization information of the subscriber terminal, and sending a new channel list to terminal service management unit 201 in subscriber terminal 200”), (see fig. 4 ¶s 45, 51-53
(channel service providing server (i.e. IPTV application apparatus 100)) “s402: The IPTV application apparatus receives a request from a subscriber terminal.

s404: The IPTV application apparatus sends a new channel list to the subscriber terminal”)

On the other hand, the NEW reference of Tanaka also discloses “(b) after step (a), configuring a virtual package for a playback of the streaming data based on the fixed information” (see figs. 19, 22, 24 ¶s 181-191, 195 configuring a virtual package for a playback of the streaming data based on the fixed information (i.e. Playlist)); “(c) after step (b), transmitting a request for a variable information associated with the streaming data to the channel service providing server” (see figs. 19, 22, 24 ¶s 181-191, 195 for transmitting a request for a variable information (i.e. AVClips, Clip information) associated with the streaming data to the channel service providing server (i.e. server)); “and (d) receiving the variable information from the channel service providing server according to the request for variable information” (see figs. 19, 22, 24 ¶s 181-191, 195 for receiving the variable information (i.e. AVClips, Clip information) from the channel service providing server (i.e. server) according to the request for variable information)

Therefore, the combination of Yahata, Chen and Tanaka discloses the above claimed limitations of claim 8.

In re pages 13-14, applicants state that “Claims 10-15 and 17 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Yahata in view of Takashima,
and further in view of Chen. Without admission as to the correctness of Examiner's other arguments, Applicants note that claims 12-15 and 17 depend from claim 8 and are therefore patentable over the cited references for at least the same reasons. Claims 10 and 11 have been cancelled without prejudice or disclaimer, thereby rendering the rejection thereof moot. Therefore, Applicants respectfully request withdrawal of this rejection. Claim 16 is rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Yahata, Takashima, and Chen, and further in view of Berger (U.S. Patent Application Publication No. 2007/0198468). Without admission as to the correctness of Examiner's other arguments, Applicants note that claim 16 depends upon claim 8, and that Berger does not address the failure of Yahata, Takashima, and Chen to teach or suggest all the limitations of claim 8. Claim 16 is therefore patentable over the cited references for at least the same reasons as set forth regarding claim 8. Therefore, Applicants respectfully request withdrawal of this rejection."

(6) In response, as discussed above in (2), (3), (5) with respect to claim 8, the combination of Yahata, Chen and Tanaka discloses the above claimed limitations of claim 8.

In re pages 14-15, applicants state that “Claim 21 recites, inter alia: (a) transmitting fixed information ...; (b) after step (a) ....; (c) after step (b), ... ; (d) after step (c), transmitting the variable information ... ; (e) after step (d), ... ; and (f) after step (e), transmitting the streaming data including the one or more clips to the playback apparatus ... Examiner repeats the same argument applied to claim 1 to argue Yahata teaches or suggests that transmission of the fixed information is a distinct action that
occurs before transmission of the variable information. Without admission as to the correctness of Examiner's other arguments, Applicants respond to this argument in the same manner as with claim 1 above, mutatis mutandis. The limitation of claim 21 that step (d) be a distinct action occurring after step (c) (and, by extension, step (a)), or that step (f) be a distinct action occurring after step (e) (and, by extension, step (d)) is neither taught nor suggested by Yahata, by itself or in combination with Chen. Furthermore, claim 21 has been amended to recite the following features: (d) after step (c), transmitting the variable information to the playback apparatus according to a transmission request for the variable information received from the playback apparatus; (f) after step (e), transmitting the streaming data including the one or more clips to the playback apparatus, wherein the transmission request for the variable information is transmitted from the playback apparatus after the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information. (emphasis added). Neither Yahata nor Chen teaches such features of claim 21. Hence, assuming arguendo the three cited references can be combined and a reasonable expectation of success exists, the combined references still do not disclose such features of claim 21. Accordingly, it is respectfully submitted that claim 21 is allowable over Yahata and Chen, whether take alone or in combination. Therefore, Applicants respectfully request withdrawal of this rejection."

(7) In response, the Examiner respectfully disagrees. As discussed above in (2), (3), (5) with respect to claim 1, which is also applicable to claim 21, and furthermore, Yahata discloses “(d) after step (c), transmitting the variable information to the playback
apparatus according to a transmission request for the variable information received from the playback apparatus” (see ¶ 426 “AVClips, Clip information making up one pieces of volume data are obtained. AVClips, Clip information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request” in which AVClips, Clip information are variable information transmitted to the playback apparatus upon request); “and (f) after step (e), transmitting the streaming data including the one or more clips to the playback apparatus” (see figs. 22, 23A-23B ¶s 239-240 “this indicates that the data amount supplied from the BD-ROM and the local storage is limited to the transmittable amount or less in any window”), (see ¶ 426 “AVClips, Clip information and PlayList information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request” in which AVClip is digital stream data)

On the other hand, the NEW reference of Tanaka also discloses “(d) after step (c), transmitting the variable information to the playback apparatus according to a transmission request for the variable information received from the playback apparatus” (see figs. 19, 22, 24 ¶s 181-191, 195 for transmitting the variable information (i.e. AVClips, Clip information) to the playback apparatus according to a transmission request for the variable information received from the playback apparatus);

“wherein the transmission request for the variable information is transmitted from the playback apparatus after the playback apparatus configures a virtual package for a
playback of the streaming data based on the fixed information” (see figs. 19, 22, 24 ¶s 181-191, 195 for the transmission request for the variable information is transmitted from the playback apparatus after the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information. In which paragraphs 181-191 describe the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information (i.e. Playlist) and paragraph 195 describes the transmission request for the variable information (i.e. AVClips, Clip information) is transmitted from the playback apparatus)

Therefore, the combination of Yahata and Tanaka discloses the above claimed limitations of claim 21.

In re pages 15-16, applicants state that “Claims 26 and 28 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Yahata in view of Chen. Without admission as to the correctness of Examiner's other arguments, Applicants note that claims 26 and 28 depend upon claim 21 and are therefore patentable over the cited references for at least the same reasons. Therefore, Applicants respectfully request withdrawal of this rejection. Claims 22 and 23 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Yahata and Chen in further view of Takashima. Without admission as to the correctness of Examiner's other arguments, Applicants note that claims 22 and 23 depend upon claim 21, and that Takashima does not address the failure of Yahata and Chen to teach or suggest all the limitations of claim 21. Claims 22
and 23 are therefore patentable over the cited references for at least the same reasons as set forth regarding claim 21. Therefore, Applicants respectfully request withdrawal of this rejection. Claim 24 is rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Yahata and Chen and further in view of Seo et al. (U.S. Patent Application Publication No. 2006/0153022; hereinafter Seo). Without admission as to the correctness of Examiner’s other arguments, Applicants note that claim 24 depends upon claim 21 and that Seo does not address the failure of Yahata and Chen to teach or suggest all the limitations of claim 21. Claim 24 is therefore patentable over the cited references for at least the same reasons as set forth regarding claim 21. Therefore, Applicants respectfully request withdrawal of this rejection. Claim 25 is rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Yahata in view of Chen and further in view of Svanbro et al. (U.S. Patent Application Publication No. 2005/0125533; hereinafter Svanbro). Without admission as to the correctness of Examiner’s other arguments, Applicants note that claim 25 depends upon claim 21 and that Svanbro does not address the failure of Yahata and Chen to teach or suggest all the limitations of claim 21. Claims 25 is therefore patentable over the cited references for at least the same reasons as set forth regarding claim 21. Therefore, Applicants respectfully request withdrawal of this rejection. Claim 27 is rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Yahata in view of Chen and further in view of Berger. Without admission as to the correctness of Examiner’s other arguments, Applicants note that claim 27 depends upon claim 21 and that Berger does not address the failure of Yahata and Chen to teach or suggest all the
limitations of claim 21. Claim 27 is therefore patentable over the cited references for at least the same reasons as set forth regarding claim 21. Therefore, Applicants respectfully request withdrawal of this rejection.”

(8) In response, as discussed above in (2), (3), (5), (7) with respect to claim 21, the combination of Yahata and Tanaka discloses the above claimed limitations of claim 21.

In re pages 17-18, applicants state that “Claim 19 recites, inter alia: A method for providing a channel service, the method comprising steps of... by the channel service providing server, transmitting BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information for the selected channel service to the playback apparatus.... In the Amendment filed January 9, 2013, Applicants argued on page 13: [Takashima] fails to disclose the transmission of all three information, i.e., BUMF, SF and playlist, from a server to a playback apparatus. Thus, it is clear that Takashima does not teach “by the channel service providing server, transmitting BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information for the selected channel service to the playback apparatus,” as recited in claim 19 (emphasis added). Without admission to the correctness of Examiner’s interpretation, Applicants note that it actually supports Applicants’ argument, not Examiner’s. Examiner states correctly that Takashima teaches a BUMF is generated and updated on the information processing device. As previously noted, the Examiner also argues that the information processing device is analogous to the playback apparatus. However, the limitation in question requires that the BUMF be transmitted by
the channel service providing server, and to the playback apparatus. In contrast, Takashima repeatedly states that the BUMF is generated and updated on the information processing device (according to the Examiner, the playback apparatus) (see inter alia FIG. 11 S108, and ¶¶ 0113, 0123, and 0178), and transmitted to the server (see inter alia FIG. 11 S109, and ¶¶ 0196, 0218, and 0239). It is further noted that the Examiner appears to argue that the BUSF of Takashima is analogous to the SF information. Without admission as to the correctness of this interpretation, Applicants note that the BUSF is generated by the server and sent to the information processing device in response to receipt of the BUMF (see FIG. 11 S110 and S111). This, therefore, further teaches against the limitation at issue, as the BUMF can never come from the same source as the BUSF. In other words, Takashima not only fails to teach or suggest the limitation of transmitting the BUMF from the server to the playback apparatus, it teaches against it. It further teaches against transmitting the BUMF and SF information from the same source to the same destination, regardless of whether the source is analogous to the server, or the destination to the playback apparatus. Neither Yahata nor Chen overcome this gross deficiency of Takashima. Furthermore, claim 19 has been amended to recite the following features: by the playback apparatus, transmitting a request for a clip information to the channel service providing server after performing the package update;...by the playback apparatus, receiving a first clip and first clip information about the first clip from the channel service providing server according to the request for a clip information and then playing the first clip;...
(emphasis added). None of Takashima, Yahata, and Chen teaches such features of
claim 19. Hence, assuming arguendo the three cited references can be combined and a reasonable expectation of success exists, the combined references still do not disclose such features of claim 19. Accordingly, it is respectfully submitted that claim 19 is allowable over Takashima, Yahata, and Chen, whether taken alone or in combination. Therefore, Applicants respectfully request withdrawal of this rejection.”

(9) In response, the Examiner respectfully disagrees. Takashima discloses in paragraph 12 that “**Binding Unit Signature File (BUSF)), which is a signature setting file wherein a server private key for providing the subsequential data is applied to the data that structures the BUMF to enable the performance of strict usage control of the subsequential data.”

**NOTE:** First, it should be noted that BUSF is same as SF. Second, paragraph 20 of Baek et al. of the Application No. (12/457,508) states that “**The SF information is used for verifying a validity of the BUMF information**.” Third, Takashima discloses in paragraph 12 that “**BUSF is a signature setting file wherein a server private key for providing the subsequential data is applied to the data that structures the BUMF to enable the performance of strict usage control of the subsequential data.**” Therefore, Baek and Takashima provide a Signature File for security purpose.

And in figs. 2-3 paragraph 76 that “**The information processing device 100 may be of a variety of information processing devices, such as a PC or a dedicated player device**”

**NOTE:** it should be clear that a player device is a playback device, which is used to playback the playlist as shown in figure 3 for example. Therefore, the information
processing device 100 (i.e. player device) of Takashima is clearly analogous to the "playback apparatus" of an embodiment of the present application.

And in figs. 1, 11 paragraph 148 that “The server references the information regarding the content that is possessed, received from the user information processing device, generates a list of content corresponding to the content that can be provided to the user, and then, in Step S103, sends this list to the user-side information processing device. An example of a content list that is sent from the server is illustrated in FIG. 12.”

And in figs. 1, 11 paragraph 150 that “In this way, owned content information is received by the server from the user information processing device through the communication unit, and the owned content information that has been received is used in the data processing unit of the server to generate the content list illustrated in FIG. 12, which records information on content that can be provided to the user device, and this list is provided to the user device through the communication unit. Note that the content list that is generated by the server, as shown in FIG. 12, is a list of content wherein identification information for data files that correspond to the data that can be provided to the user device is associated with download content IDs, a list wherein the information is established in response to the recording media on the user side.”

And in figs. 1, 11 paragraph 151 that “Note that a special directory corresponding to the downloaded content ID of the content illustrated in FIG. 12 is established when the user-side information processing device 100 has actually
downloaded the subsequential data. The information processing device 100 stores the subsequential data that has been downloaded, etc., in this directory that has been established. Note that, in this data recording process, there is no need for the filename to be identical to the downloaded content ID. As has already been explained in reference to FIG. 9 (a1) and (b1), the storage can use a filename set up using the studio name, or the like. The correspondence between the download content ID and the actual storage directory in the local storage unit 102 is recorded in the downloaded content list data that has already been explained in reference to FIG. 10.”

And in fig. 11 paragraph 152 that “The explanation will continue, returning to the sequence diagram of FIG. 11. In Step S103, the server references the information regarding the content that is possessed, received from the user information processing device, generates a list of content (for example, the list illustrated in FIG. 12) corresponding to the content that can be provided to the user, and then sends this list to the user-side information processing device.”

And in fig. 11 paragraphs 156-163 that “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like) and the download data processing information file (a file describing the state of processing of the subsequential data selected by the download data
processing information file ID) are sent to the user-side information processing device.”

**NOTE:** it should be noted that the communication unit (i.e. network) as illustrated in figure 1 is used by the servers to transmit the above mentioned information to a user device such as an information processing device 100 (i.e. player device); hence, the channel service providing server are such servers. Therefore, the servers of Takashima clearly provide service as described in the above figures and paragraphs. However, as the Examiner stated in the prior Office Action dated 12/20/2012 that the reference of Chen discloses the channel service providing server as it is described below.

And in fig. 11 paragraphs 178, 182-183 that **“in Step S108, the user-side information processing device performs a process for generating or updating the filename conversion table (manifest file (BUMF)) that includes the filename conversion information for the subsequential data that has been obtained”**

And in fig. 19 paragraph 218 that **“The server 131 performs the process for providing the subsequential data, and performs a process for receiving a filename conversion table (manifest file (BUMF)) that has been generated or updated in the information processing device 100, generating the file tampering validation data (BUSF), and sending the file tampering validation data (BUSF) to the information processing device 100”**

**NOTE:** the Applicants stated in the prior Office Action dated 06/06/2013 that “While Fig. 11 of Takashima illustrates the transmission of BUMF/BUSF (S108-S112), it fails to disclose the transmission of all three information, i.e., BUMF, SF and playlist.”
from a server to a playback apparatus.” Also, the Applicants repeated it again by saying that “[Takashima] fails to disclose the transmission of all three information, i.e., BUMF, SF and playlist, from a server to a playback apparatus. Thus, it is clear that Takashima does not teach "by the channel service providing server, transmitting BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information for the selected channel service to the playback apparatus.”

In response, it should be note that BUMF, SF and playlist are transmitted from a server to a playback apparatus, since the BUMF includes a playlist as clearly shown in figures 11 and 16 which describes (a) BUMF before updating and (b) BUMF after updating; wherein fig. 16 describes generating/updating by information processing device (i.e. player device).

Furthermore, the Applicants stated above that “the BUSF is generated by the server and sent to the information processing device in response to the receipt of the BUMF (see FIG. 11 S110 and S111). This, therefore, further teaches against the limitation at issue, as the BUMF can never come from the same source as the BUSF.” First, the Examiner respectfully disagrees. Second, there is NO a single limitation claiming what the Applicants asserted above.

Also, the Applicants state that “It further teaches against transmitting the BUMF and SF information from the same source to the same destination, regardless of whether the source is analogous to the server, or the destination to the playback apparatus.” In response, the Examiner respectfully disagrees. In fact, Takashima clearly discloses that BUMF, SF and playlist are transmitted from a server to a playback
apparatus, since the BUMF includes a playlist as clearly shown in figures 11 and 16 which describes (a) BUMF before updating and (b) BUMF after updating; wherein fig. 16 describes generating/updating by information processing device (i.e. player device). Therefore, Takashima anticipates the claim limitation.

And in figs. 7-8, 11, 16 paragraph 123 that “Processes are required to generate or update the manifest file (BUMF) and control data, and to generate or update the file tampering validation data (BUSF), each time this type of subsequential data is obtained. That is, the data processing unit 101 of the information processing device 100 shown in FIG. 1 performs a comparison process of the data stored in the local storage unit 102 with the storage data of the control file stored in the local storage unit 102, and performs a process of generating or updating the filename conversion table and the manifest file (BUMF) so as to reconcile between the information recorded in the control file and the data stored in the local storage unit 102.”

And in figs. 7-8, 11, 16 paragraph 124 that “A device that acquires subsequential data regularly must perform the process of creating or updating these files frequently, and thus there is the need to increase the efficiency of these processes. An example of a process for creating and updating the manifest file (BUMF), the control data, and the file tampering validation data (BUSF) as set forth in an example of embodiment according to the present invention will be described below.”
And in figs. 7-8, 11, 16 paragraph 125 that “First an example of a directory when subsequential data is written to the local storage unit 102 of the information processing device 100 on the user side will be explained in reference to FIG. 7. The example of the directory in the local storage unit 102 that is illustrated in FIG. 7 is an example of a directory that is partitioned by the studio (Org: Organization) unit that provided the subsequential data, and is further partitioned by the disc (=package) unit (Disc_id) provided by the studio.”

And in figs. 7-8, 11, 16 paragraph 129 that “Note that the "virtual package" is synonymous with the VFS (virtual file system) described above, and the last filename in the data that structures the post-conversion filename of the manifest file (BUMF) that is the filename conversion table that was described above in reference to FIG. 6 is the filename in the virtual package.”

And in fig. 11 paragraph 161 that “The user-side information processing device stores the files of the subsequential data itself, for example, the AVStream, the ClipInfo, the PlayList, and so forth, and then performs the process of generating or updating the download file local control information and the control data such as the downloaded content list”

And in fig. 15 paragraph 170 that “Next, in Step S206, unused filenames, not listed in the filename conversion table (BUMF (bumf.xml)), are allocated as the VFS filenames corresponding to each of the files (the clip information (ClipInfo) file, the clip AV stream (ClipAVStream) file, the play list (PlayList) file, etc.) that structure the subsequential data that is received.”
And in fig. 15 paragraphs 171-176 that “Next, in the Step S207, three types of information are referenced to generate or update the download file local control information (shown in FIG. 8);”

And in fig. 11 paragraphs 178, 181-185 that “in Step S108, the user-side information processing device performs a process for generating or updating the filename conversion table (manifest file (BUMF)) that includes the filename conversion information for the subsequent data that has been obtained”

NOTE: the Applicants stated above that “playback apparatus, performing a package update from a disk package to a virtual package, based on the BUMF information, the SF information and the playlist information.”

It should be clear from the above figures and paragraphs that playback apparatus (i.e. player device or information processing device 100), performing a package update from a disk package to a virtual package, based on the BUMF information, the SF information and the playlist information. Furthermore, the above figures and paragraphs clearly describe the BUMF information, the SF information and the playlist information that are included in the disc package being updated to a virtual package.

From the above passages, Takashima indeed discloses the claimed limitations “by the channel service providing server, transmitting BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information for the selected channel service to the playback apparatus” (see fig. 1, 11 ¶s 148, 150-152 “The server references the information regarding the content that is possessed, received from
the user information processing device, generates a list of content corresponding to the content that can be provided to the user, and then, in Step S103, sends this list to the user-side information processing device; owned content information is received by the server from the user information processing device through the communication unit” in which the communication unit (i.e. network) as illustrated in figure 1 is used by the servers to transmit such information to the user device; hence, the channel service providing server are such servers. However, the reference of Chen discloses below the channel service providing server), (see fig. 11 ¶s 156-163 “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like)) are sent to the user-side information processing device”), (see fig. 11 ¶s 178, 182-183 “in Step S108, the user-side information processing device performs a process for generating or updating the filename conversion table (manifest file (BUMF)) that includes the filename conversion information for the subsequential data that has been obtained”), (see fig. 19 ¶ 218 “The server 131 performs the process for providing the subsequential data, and performs a process for receiving a filename conversion table (manifest file (BUMF)) that has been generated or updated in the information processing device 100, generating the file tampering validation data (BUSF), and sending the file tampering validation data (BUSF) to
the information processing device 100”); “by the playback apparatus, performing a
package update from a disk package to a virtual package, based on the BUMF
information, the SF information and the playlist information” (see figs. 1, 7-8 ¶s 123-
125, 129 “Processes are required to generate or update the manifest file (BUMF)
and control data, and to generate or update the file tampering validation data
(BUSF), each time this type of subsequential data is obtained”), (see fig. 11 ¶ 161
“The user-side information processing device stores the files of the
subsequential data itself, for example, the AVStream, the ClipInfo, the Playlist,
and so forth, and then performs the process of generating or updating the
download file local control information and the control data such as the
downloaded content list”), (see fig. 15 ¶s 170-176 “Next, in the Step S207, three
types of information are referenced to generate or update the download file local
control information (shown in FIG. 8)”), (see fig. 11 ¶s 178, 181-185 “in Step S108,
the user-side information processing device performs a process for generating or
updating the filename conversion table (manifest file (BUMF)) that includes the
filename conversion information for the subsequential data that has been
obtained”); “by the channel service providing server, progressively generating clips
constituting streaming data and also generating clip information about each clip” (see
fig. 11 ¶s 156-163 “The user-side information processing device stores the files of
the subsequential data itself, for example, the AVStream, the ClipInfo, the
Playlist, and so forth, and then performs the process of generating or updating
the download file local control information and the control data such as the
downloaded content list”); “by the playback apparatus, receiving a first clip and first clip information about the first clip from the channel service providing server according to the request for a clip information” (see fig. 11 ¶s 156-163 “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like)) are sent to the user-side information processing device”), (see fig. 15 ¶ 170 “allocated as the VFS filenames corresponding to each of the files (the clip information (ClipInfo) file, the clip AV stream (ClipAVStream) file, the play list (PlayList) file, etc.) that structure the subsequential data that is received”), (see ¶ 426 “AVClips, Clip information making up one pieces of volume data are obtained. AVClips, Clip information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request” when the playback apparatus makes a request for Clip information to the channel service providing server (i.e. server), the playback apparatus will receive the clip information from the channel service providing server according to the request for a clip information); “and by the playback apparatus, receiving a second clip and second clip information about the second clip from the channel service providing server” (see fig. 11 ¶s 156-163 “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content.
Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like) are sent to the user-side information processing device”), (see fig. 15 ¶ 170 “allocated as the VFS filenames corresponding to each of the files (the clip information (ClipInfo) file, the clip AV stream (ClipAVStream) file, the play list (PlayList) file, etc.) that structure the subsequential data that is received”)

Furthermore, Yahata discloses “and then playing the first clip, and then playing the second clip” (see ¶ 140 “an AVClip that is stored in the local storage and played back with a MainClip is called the “SubClip””), (see fig. 12 ¶ 163 “Clip_Information file_name” that indicates the file name of the playback section information of the AVClip to which the IN point and the OUT point of the playback section belong”), (see figs. 16, 18-19 ¶s 188, 201, 203, 209, 222, 455, 463 “Whereas the Mainpath is a playback path defined for the MainClip which is a main video, the Subpath is a playback path defined for the SubClip which synchronizes with the MainPath”)

Furthermore, Chen discloses “by a playback apparatus, transmitting a request for the channel service selected in a channel list to a channel service providing server” (see fig. 3 ¶s 40-41 (channel service providing server (i.e. Process unit 102)) “Process unit 102 is used for responding to service information inquiries, receiving requests from subscriber terminal 200, updating the authorization information of the subscriber terminal, and sending a new channel list to terminal service
management unit 201 in subscriber terminal 200”), (see fig. 4 ¶s 45, 51-53
(channel service providing server (i.e. IPTV application apparatus 100)) “s402:
The IPTV application apparatus receives a request from a subscriber terminal.
s404: The IPTV application apparatus sends a new channel list to the subscriber
terminal”)

On the other hand, the NEW reference of Tanaka also discloses “by the playback
apparatus, receiving a first clip and first clip information about the first clip from the
channel service providing server according to the request for a clip information” (see
figs. 19, 22, 24 ¶s 181-191, 195 by the playback apparatus, receiving a first clip
and first clip information about the first clip from the channel service providing
server according to the request for a clip information); “and by the playback
apparatus, receiving a second clip and second clip information about the second clip
from the channel service providing server and then playing the first clip” (see figs. 19,
24, 28 ¶s 195, 202-204 for playing the clips); “by the playback apparatus, transmitting
a request for a clip information to the channel service providing server after performing
the package update” (see fig. 26 ¶ 199 by the playback apparatus, transmitting a
request for a clip information to the channel service providing server after
performing the package update)

Therefore, the combination of Takashima, Yahata, Chen and Tanaka discloses
all the claimed limitations of claim 19.
In re page 19, applicants state that “Claim 20 is rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Yahata in view of Takashima and further in view of Chen. Without admission as to the correctness of Examiner’s other arguments, Applicants note that claim 20 depends upon claim 19 and is therefore patentable over the cited references for at least the same reasons. Therefore, Applicants respectfully request withdrawal of this rejection.”

(10) In response, as discussed above in (9) with respect to claim 19, the combination of Takashima, Yahata, Chen and Tanaka discloses all the claimed limitations of claim 19.

In re pages 19-20, applicants state that “Claim 29 recites, inter alia: A method of providing a channel service by a playback apparatus supporting a BD-J specification, the method comprising steps of...receiving fixed information on format of streaming data of a selected channel service from the channel service providing server, the fixed information including BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information... Examiner repeats the same argument applied to claim 19 to argue Takashima teaches or suggests that BUMF information, SF information, and playlist information are all received by the playback apparatus. Without admission as to the correctness of Examiner’s other arguments, Applicants respond to this argument in the same manner as with claim 19 above, mutatis mutandis. The limitations of claim 29 that the BUMF be received, not generated, by the playback apparatus, and that the SF information be received by the same destination as the
BUMF, is neither taught nor suggested by Takashima, by itself or in combination with Yahata and Chen. Indeed, Takashima teaches against these limitations. Furthermore, claim 29 has been amended to recite the following features: configuring a virtual package apparatus to play the streaming data based on the fixed information; transmitting a second request for a variable information on each of one or more clips generated by the channel service providing server to the channel service providing server after configuring the virtual package; (emphasis added). None of Takashima, Yahata, and Chen teaches such features of claim 29. Hence, assuming arguendo the three cited references can be combined and a reasonable expectation of success exists, the combined references still do not disclose such features of claim 29. Accordingly, it is respectfully submitted that claim 29 is allowable over Takashima, Yahata, and Chen, whether take alone or in combination. Therefore, Applicants respectfully request withdrawal of this rejection.”

(11) In response, as discussed above in (9) with respect to claim 19, which is also applicable to claim 29, and furthermore, Takashima discloses “receiving fixed information on format of streaming data of a selected channel service from the channel service providing server” (see fig. 1, 11 ¶ 148, 150-152 “The server references the information regarding the content that is possessed, received from the user information processing device, generates a list of content corresponding to the content that can be provided to the user, and then, in Step S103, sends this list to the user-side information processing device; owned content information is received by the server from the user information processing device through the
communication unit” in which the communication unit (i.e. network) as illustrated in figure 1 is used by the servers to transmit such information to the user device; hence, the channel service providing server are such servers. However, the reference of Chen discloses below the channel service providing server), (see fig. 11 ¶s 156-163 “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like) are sent to the user-side information processing device” in which PlayList files are fixed information), (see fig. 15 ¶ 170 “allocated as the VFS filenames corresponding to each of the files (the clip information (ClipInfo) file, the clip AV stream (ClipAVStream) file, the play list (PlayList) file, etc.) that structure the subsequential data that is received” in which PlayList files are fixed information), “the fixed information including BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information” (see fig. 11 ¶s 156-163 “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like) are sent to the user-side information processing device”), (see fig. 11 ¶s 178, 182-183 “in Step S108, the
user-side information processing device performs a process for generating or updating the filename conversion table (manifest file (BUMF)) that includes the filename conversion information for the subsequential data that has been obtained”), (see fig. 19 ¶ 218 “The server 131 performs the process for providing the subsequential data, and performs a process for receiving a filename conversion table (manifest file (BUMF)) that has been generated or updated in the information processing device 100, generating the file tampering validation data (BUSF), and sending the file tampering validation data (BUSF) to the information processing device 100”); “configuring a virtual package to play the streaming data based on the fixed information” (see figs. 3, 6-9 ¶s 124-142 for configuring a virtual package to play the streaming data based on the fixed information); “transmitting a second request for a variable information on each of one or more clips generated by the channel service providing server to the channel service providing server after configuring the virtual package” (see ¶s 155-156 “A content acquisition request is sent to the server by this process. The content acquisition request is sent to the server as the content selection instruction in Step S105 illustrated in FIG. 11.”); receiving the variable information from the channel service providing server (see fig. 11 ¶s 156-163 “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like)) are
sent to the user-side information processing device” in which the clip information
(ClipInfo) file and the clip AV stream (ClipAVStream) file are variable information),
(see fig. 15 ¶ 170 “allocated as the VFS filenames corresponding to each of the
files (the clip information (ClipInfo) file, the clip AV stream (ClipAVStream) file, the
play list (PlayList) file, etc.) that structure the subsequential data that is received”
in which the clip information (ClipInfo) file and the clip AV stream (ClipAVStream)
file are variable information)

Furthermore, Chen also discloses “channel service providing server” (see fig. 3
¶s 40-41 (channel service providing server (i.e. Process unit 102)) “Process unit
102 is used for responding to service information inquiries, receiving requests
from subscriber terminal 200, updating the authorization information of the
subscriber terminal, and sending a new channel list to terminal service
management unit 201 in subscriber terminal 200”), (see fig. 4 ¶s 45, 51-53
(channel service providing server (i.e. IPTV application apparatus 100)) “s402:
The IPTV application apparatus receives a request from a subscriber terminal.
s404: The IPTV application apparatus sends a new channel list to the subscriber
terminal”)

On the other hand, the NEW reference of Tanaka also discloses “configuring a
virtual package to play the streaming data based on the fixed information” (see figs. 19,
22, 24, 28 ¶s 181-191, 195, 202-204 for configuring a virtual package to play the
streaming data based on the fixed information (i.e. Playlist)); “transmitting a
second request for a variable information on each of one or more clips generated by the
channel service providing server to the channel service providing server after configuring the virtual package" (see figs. 19, 22, 24 ¶s 181-191, 195 for transmitting a second request for a variable information (i.e. AVClips, clip information) on each of one or more clips generated by the channel service providing server (i.e. server) to the channel service providing server after configuring the virtual package)

Therefore, the combination of Takashima, Chen and Tanaka discloses the above claimed limitations of claim 29.

In re page 20, applicants state that “Claim 30 is rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Takashima, Yahata, and Chen, and further in view of Seo. Without admission as to the correctness of Examiner’s other arguments, Applicants note that claim 30 depends upon claim 29 and that Seo does not address the failure of Takashima, Yahata, and Chen to teach or suggest all the limitations of claim 21. Claim 30 is therefore patentable over the cited references for at least the same reasons as set forth regarding claim 29. Therefore, Applicants respectfully request withdrawal of this rejection."

(12) In response, as discussed above in (9), (11) with respect to claim 29, the combination of Takashima, Chen and Tanaka discloses the above claimed limitations of claim 29.

Claim Rejections - 35 USC § 103
The following is a quotation of 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 of this title, 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.

1. Claims 1, 4-5, 8, 10-15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yahata et al. (US 2009/0097821 A1) (hereinafter Yahata), and further in view of Takashima et al. (US 2009/0271411 A1) (hereinafter Takashima), and further in view of Chen (US 2008/0244658 A1) (hereinafter Chen), and further in view of Tanaka et al. (US 2007/0086727 A1) (hereinafter Tanaka).

Re claim 1, Yahata discloses a method for providing a channel service by a channel service providing server, the method comprising steps of: (a) transmitting a fixed information associated with a streaming data of the channel service to a playback apparatus supporting a BD-J specification according to a request for the channel service received from the playback apparatus (see fig. 22 ¶ 239 “the temporal transition of the total transmission amount is as shown by the solid curve; the total data amount is the sum amount of TS packets belonging to streams that have been allowed in the STN table”), (see figs. 1, 33 ¶s 93-94, 429 “The playback apparatus 300 is also able to download content from a server 700 of a movie distributor via a network” in which the network as illustrated in figure 1 is used by the server to transmit such information to the playback apparatus; hence, the channel service providing server are such servers. However, the reference of Chen discloses below the channel service providing server), (see ¶s 568 & 577
“the playback apparatus may be caused to perform a BD-J application”), (see figs. 14 & 16 ¶¶s 185-186 “a file (00002.mpls) to which extension "mpls" is attached is information that defines a group made by binding up two types of playback paths called MainPath and Subpath as playlist (PL)” which are fixed information), (see ¶ 426 “PlayList information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request” in which PlayList information is fixed information); (b) after step (a), transmitting a variable information associated with the streaming data to the playback apparatus according to a transmission request for the variable information received from the playback apparatus (see ¶ 426 “AVClips, Clip information making up one pieces of volume data are obtained. AVClips, Clip information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request” in which AVClips, Clip information are variable information associated with the streaming data transmitted to the playback apparatus upon request); and (c) after step (b), transmitting the streaming data to the playback apparatus (see figs. 23A-23B ¶ 240 “this indicates that the data amount supplied from the BD-ROM and the local storage is limited to the transmittable amount or less in any window”)

Yahata fails to explicitly teach wherein the fixed information includes at least one of BUMF information and SF information associated with the streaming data. However, the reference of Takashima explicitly teaches wherein the fixed information includes at
least one of BUMF information and SF information associated with the streaming data (see figs. 4, 6, 7, 14-16 ¶s 74-75, 80, 97, 99-102, 106, 112-114, 117-124, 129-131, 135, 139-140, 145, 156, 158, 161, 163, 169-170, 178-186, 189, 194-199, 206-211, 216-221, 227, 230, 233-235, 238-239, 240-242 for BUMF information and SF information)

Therefore, taking the combined teachings of Yahata and Takashima as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (SF information) into the system of Yahata at the time the invention was made as taught by Takashima.

One will be motivated to incorporate the feature SF information into the system of Yahata as taught by Takashima for the benefit of implementing a file tampering validation data (e.g., Binding Unit Signature File (BUSF), which is a signature setting file wherein a server private key for providing the substantial data is applied to the data that structures the BUMF in order to enable the performance of strict usage control of the subsequent data (see ¶ 12)

Furthermore, Yahata fails to explicitly teach channel service providing server. However, the reference of Chen explicitly teaches channel service providing server (see fig. 3 ¶s 40-41 (channel service providing server (i.e. Process unit 102)) “Process unit 102 is used for responding to service information inquiries, receiving requests from subscriber terminal 200, updating the authorization information of the subscriber terminal, and sending a new channel list to terminal service
management unit 201 in subscriber terminal 200”), (see fig. 4 ¶s 45, 51-53
(channel service providing server (i.e. IPTV application apparatus 100)) “s402:
The IPTV application apparatus receives a request from a subscriber terminal.
s404: The IPTV application apparatus sends a new channel list to the subscriber
terminal”)

Therefore, taking the combined teachings of Yahata and Chen as a whole, it
would have been obvious to one of ordinary skills in the art to incorporate this feature
(channel) into the system of Yahata at the time the invention was made as taught by
Chen.

One will be motivated to incorporate the feature channel into the system of
Yahata as taught by Chen for the benefit of generating a channel list for the subscriber
terminal according to the authorization information in order to improve efficiency (see ¶
11)

Tanaka also discloses (b) after step (a), transmitting a variable information
associated with the streaming data to the playback apparatus according to a
transmission request for the variable information received from the playback apparatus
(see figs. 19, 22, 24 ¶s 181-191, 195 for transmitting a variable information (i.e.
AVClips, Clip information) associated with the streaming data to the playback
apparatus according to a transmission request for the variable information
received from the playback apparatus)

Therefore, taking the combined teachings of Yahata and Tanaka as a whole, it
would have been obvious to one of ordinary skills in the art to incorporate this feature
(request) into the system of Yahata at the time the invention was made as taught by Tanaka.

One will be motivated to incorporate the feature request into the system of Yahata as taught by Tanaka for the benefit of having a playback apparatus which transmits a request for variable information (i.e. AVClips, Clip information) after the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information (i.e. Playlist) in order to improve efficiency (see figs. 19, 22, 24 ¶ 195)

Furthermore, Yahata fails to explicitly teach wherein the transmission request for the variable information is transmitted from the playback apparatus after the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information. However, the reference of Tanaka explicitly teaches wherein the transmission request for the variable information is transmitted from the playback apparatus after the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information (see figs. 19, 22, 24 ¶s 181-191, 195 for the transmission request for the variable information is transmitted from the playback apparatus after the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information. In which paragraphs 181-191 describe the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information (i.e. Playlist) and paragraph 195 describes the transmission request for the variable
information (i.e. AVClips, Clip information) is transmitted from the playback apparatus)

Therefore, taking the combined teachings of Yahata and Tanaka as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (request) into the system of Yahata at the time the invention was made as taught by Tanaka.

One will be motivated to incorporate the feature request into the system of Yahata as taught by Tanaka for the benefit of having a playback apparatus which transmits a request for variable information (i.e. AVClips, Clip information) after the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information (i.e. Playlist) in order to improve efficiency (see figs. 19, 22, 24 ¶ 195)

Re claim 4, the combination of Yahata, Takashima, Chen and Tanaka as discussed in claim 3 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the variable information includes a clip information corresponding to each of one or more clips included in the streaming data (see ¶ 426 “AVClips, Clip information making up one pieces of volume data are obtained”)

Re claim 5, the combination of Yahata, Takashima, Chen and Tanaka as discussed in claim 4 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the step (b) comprises transmitting the clip
information to the playback apparatus, and wherein the step (c) comprises transmitting one of the one or more clips corresponding to the clip information to the playback apparatus according to the transmission request (see ¶ 426 “AVClips, Clip information and PlayList information making up one pieces of volume data are obtained; ones which will be provided by the BD-ROM are removed from the obtained AVClips, Clip information and PlayList information, and the remaining information is assembled into one file as additional contents by an archiver program; when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request”)

Re claim 8, Yahata discloses a method for providing a channel service by a playback apparatus supporting a BD-J specification, the method comprising steps of: (a) receiving a fixed information associated with a streaming data of the channel service from a channel service providing server according to a request for the channel service included in a user input (see fig. 30 ¶ 347 “each of the decoders receives elementary streams”), (see figs. 1, 33 ¶s 93-94, 429 “The playback apparatus 300 is also able to download content from a server 700 of a movie distributor via a network” in which the network as illustrated in figure 1 is used by the server to transmit such information to the playback apparatus; hence, the channel service providing server are such servers. However, the reference of Chen discloses below the channel service providing server), (see figs. 14 & 16 ¶s 185-186 “a file
(00002.mpls) to which extension "mpls" is attached is information that defines a group made by binding up two types of playback paths called MainPath and Subpath as playlist (PL)” which are fixed information), (see ¶ 426 “PlayList information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request” in which PlayList information is fixed information), (see fig. 30 ¶ 395 “the operation receiving unit 26 receives specification of an operation made by a user on the remote controller”); (b) after step (a), configuring a virtual package for a playback of the streaming data based on the fixed information (see fig. 1 ¶s 94, 590 “The BD-ROM playback apparatus may be caused to perform a process of creating Virtual Package.” In which configuring/creating a virtual package for a playback of the streaming data based on the fixed information), (see fig. 12 ¶s 162-163 “the MainPath is a playback path that is defined in terms of a video stream, such as the main video, and an audio stream”); (c) after step (b), transmitting a request for a variable information associated with the streaming data to the channel service providing server (see ¶ 426 “AVClips, Clip information making up one pieces of volume data are obtained. AVClips, Clip information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request” in which variable information (i.e. AVClips, Clip information) associated with the streaming data are transmitted from channel service providing server (i.e. server) to the playback apparatus upon request); and (d) receiving the variable information
from the channel service providing server according to the request for variable information (see ¶ 426 “AVClips, Clip information making up one pieces of volume data are obtained. AVClips, Clip information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request” when the playback apparatus makes a request for the variable information (i.e. AVClips, Clip information) to the channel service providing server (i.e. server), the playback apparatus will receive the variable information from the channel service providing server according to the request for variable information); (e) after step (d), playing the streaming data based on the fixed information and the variable information (see fig. 30 ¶s 347 & 349 “each of the decoders receives elementary streams passed through the PID filter 3b and performs from decoding processing to playback processing according to the PCR of Primary TS (STC1 time axis)”)

Yahata fails to explicitly teach wherein the fixed information includes at least one of BUMF information and SF information. However, the reference of Takashima explicitly teaches wherein the fixed information includes at least one of BUMF information and SF information (see figs. 6, 7, 14-16 ¶s 74-75, 106, 112-114, 118-124, 129-131, 139, 145, 163, 169-170, 178-186, 189, 194-199, 206-211, 216-221, 227, 230, 233-235, 238-239, 240-242 for BUMF information and SF information)

Therefore, taking the combined teachings of Yahata and Takashima as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature
(SF information) into the system of Yahata at the time the invention was made as taught by Takashima.

One will be motivated to incorporate the feature SF information into the system of Yahata as taught by Takashima for the benefit of implementing a file tampering validation data (e.g., Binding Unit Signature File (BUSF), which is a signature setting file wherein a server private key for providing the substantial data is applied to the data that structures the BUMF in order to enable the performance of strict usage control of the subsequential data (see ¶ 12)

Furthermore, Yahata fails to explicitly teach a channel service providing server. However, the reference of Chen explicitly teaches a channel service providing server (see fig. 3 ¶s 40-41 (channel service providing server (i.e. Process unit 102)) “Process unit 102 is used for responding to service information inquiries, receiving requests from subscriber terminal 200, updating the authorization information of the subscriber terminal, and sending a new channel list to terminal service management unit 201 in subscriber terminal 200”), (see fig. 4 ¶s 45, 51-53 (channel service providing server (i.e. IPTV application apparatus 100)) “s402: The IPTV application apparatus receives a request from a subscriber terminal. s404: The IPTV application apparatus sends a new channel list to the subscriber terminal”)

Therefore, taking the combined teachings of Yahata and Chen as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature
(channel) into the system of Yahata at the time the invention was made as taught by Chen.

One will be motivated to incorporate the feature channel into the system of Yahata as taught by Chen for the benefit of generating a channel list for the subscriber terminal according to the authorization information in order to improve efficiency (see ¶ 11).

Tanaka also discloses (b) after step (a), configuring a virtual package for a playback of the streaming data based on the fixed information (see figs. 19, 22, 24 ¶s 181-191, 195 configuring a virtual package for a playback of the streaming data based on the fixed information (i.e. Playlist)); (c) after step (b), transmitting a request for a variable information associated with the streaming data to the channel service providing server (see figs. 19, 22, 24 ¶s 181-191, 195 for transmitting a request for a variable information (i.e. AVClips, Clip information) associated with the streaming data to the channel service providing server (i.e. server)); and (d) receiving the variable information from the channel service providing server according to the request for variable information (see figs. 19, 22, 24 ¶s 181-191, 195 for receiving the variable information (i.e. AVClips, Clip information) from the channel service providing server (i.e. server) according to the request for variable information)

Therefore, taking the combined teachings of Yahata and Tanaka as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (request) into the system of Yahata at the time the invention was made as taught by Tanaka.
One will be motivated to incorporate the feature request into the system of Yahata as taught by Tanaka for the benefit of having a playback apparatus which transmits a request for variable information (i.e. AVClips, clip information) after the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information (i.e. Playlist) in order to improve efficiency (see figs. 19, 22, 24 ¶ 195)

**Re claim 12**, the combination of Yahata, Takashima, Chen and Tanaka as discussed in claim 4 above discloses all the claimed limitations of claim 12.

**Re claim 13**, the combination of Yahata, Takashima, Chen and Tanaka as discussed in claim 12 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the step (d) comprises receiving the clip information, and wherein the step (e) comprises playing one of the one or more clips corresponding to the clip information (see fig. 8 ¶ 138 “even if the file extents constituting the AVClip are located discretely on the BD-ROM, TS packets are continuously supplied to the decoder so that the data is read out continuously during the playback”) and (see fig. 9 ¶ 140 “an AVClip that is stored in the local storage and played back with a MainClip is called the "Sub-Clip"”)

**Re claim 14**, the combination of Yahata, Takashima, Chen and Tanaka as discussed in claim 12 above discloses all the claim limitations with additional claimed
feature taught by Yahata wherein the fixed information includes a playback sequence information on the one or more clips, and wherein the step (e) comprises playing the one or more clips according to the playback sequence information (see fig. 4 ¶ 117 “video and audio streams are stored in a PES packet sequence”), (see fig. 8 ¶ 126 “such ATC-Sequences constitute the AVClip”), (see fig. 10 ¶s 149-150 “the Sequence Info is information regarding one or more STC-Sequences and ATC-Sequences contained in the AVClip; Program is a group of elementary streams that have in common a time axis for synchronous playback”)

**Re claim 15**, the combination of Yahata, Takashima, Chen and Tanaka as discussed in claim 14 above discloses all the claim limitations with additional claimed feature taught by Yahata comprises (f) storing the one or more clips including the streaming data in a storage space (see fig. 9 ¶ 140 “an AVClip that is stored in the local storage and played back with a MainClip is called the "Sub-Clip"" in which AVClip is digital stream data), (see fig. 14 ¶s 168 & 171 “the following information is stored: PlayList information; Clip information; and AVClips” in which AVClip is digital stream data)

**Re claim 17**, the combination of Yahata, Takashima, Chen and Tanaka as discussed in claim 15 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the step (e) comprises reading and playing at least one of the one or more clips stored in the storage space, the at least one being selected
according to a user input (see fig. 19 ¶ 221 “among elementary streams read from the BD-ROM and the local storage, ones allowed to be played back”), (see fig. 19 ¶ 224 “the decoding elementary streams are a video stream, an audio stream, a PG stream and an IG stream that have been allowed in the STN_table to be played back and have been selected for simultaneous playback; some decoding elementary streams are read from the local storage and others are read from the BD-ROM”), (see fig. 30 ¶ 395 “the operation receiving unit 26 receives specification of an operation made by a user on the remote controller”), (see ¶ 570 “to create a module manager in the playback apparatus which selects a title according to the mount of the BD-ROM, a user operation, or a state of the apparatus”)

2. Claims 6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yahata et al. (US 2009/0097821 A1) (hereinafter Yahata) as applied to claims 1, 4-5, 8, 12-15 and 17 above, and further in view of Takashima et al. (US 2009/0271411 A1) (hereinafter Takashima), and further in view of Chen (US 2008/0244658 A1) (hereinafter Chen), and further in view of Tanaka et al. (US 2007/0086727 A1) (hereinafter Tanaka), and further in view of Berger (US 2007/0198468 A1) (hereinafter Berger).

Re claim 6, the combination of Yahata, Takashima, Chen and Tanaka as discussed in claim 4 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the step (b) comprises storing the one or more clips in a circular queue in a storage space (see fig. 9 ¶ 140 “an AVClip that is stored in the
local storage and played back with a MainClip is called the "Sub-Clip"), (see fig. 14 ¶s 168 & 171 “the following information is stored: PlayList information; Clip information; and AVClips”)

Yahata fails to explicitly teach wherein the step (b) comprises storing the one or more clips in a circular queue in a storage space. However, the reference of Berger explicitly teach wherein the step (b) comprises storing the one or more clips in a circular queue in a storage space (see fig. 8 ¶s 70 for storing the one or more clips in a circular queue in a storage space)

Therefore, taking the combined teachings of Yahata, Takashima, Chen, Tanaka and Berger as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (queue) into the system of Yahata at the time the invention was made as taught by Berger.

One will be motivated to incorporate the feature queue into the system of Yahata as taught by Berger for the benefit of transmitting all content items in the queue repeatedly in order to ease the processing time and improve efficiency (see ¶ 6)

Re claim 16, the combination of Yahata, Takashima, Chen and Tanaka as discussed in claim 15 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the one or more clips stored in the storage space are in a circular queue (see fig. 9 ¶ 140 “an AVClip that is stored in the local storage and played back with a MainClip is called the "Sub-Clip"”), (see fig. 14 ¶s 168 &
171 “the following information is stored: PlayList information; Clip information; and AVClips”)

Yahata fails to explicitly teach wherein the step (b) comprises storing the one or more clips in a circular queue in a storage space. However, the reference of Berger explicitly teach wherein the step (b) comprises storing the one or more clips in a circular queue in a storage space (see fig. 8 ¶s 70 for storing the one or more clips in a circular queue in a storage space)

Therefore, taking the combined teachings of Yahata, Takashima, Chen, Tanaka and Berger as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (queue) into the system of Yahata at the time the invention was made as taught by Berger.

Per claim 16, Yahata, Takashima, Chen, Tanaka and Berger are combined for the same motivation as set forth in claim 6 above.

3. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takashima et al. (US 2009/0271411 A1) (hereinafter Takashima), and further in view of Yahata et al. (US 2009/0097821 A1) (hereinafter Yahata), and further in view of Chen (US 2008/0244658 A1) (hereinafter Chen), and further in view of Tanaka et al. (US 2007/0086727 A1) (hereinafter Tanaka).

Re claim 19, Takashima discloses a method for providing a channel service, the method comprising steps of: by the channel service providing server, transmitting BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information for the selected channel service to the playback apparatus (see fig. 1, 11 ¶s
148, 150-152 “The server references the information regarding the content that is possessed, received from the user information processing device, generates a list of content corresponding to the content that can be provided to the user, and then, in Step S103, sends this list to the user-side information processing device; owned content information is received by the server from the user information processing device through the communication unit” in which the communication unit (i.e. network) as illustrated in figure 1 is used by the servers to transmit such information to the user device; hence, the channel service providing server are such servers. However, the reference of Chen discloses below the channel service providing server), (see fig. 11 ¶s 156-163 “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like) are sent to the user-side information processing device”), (see fig. 11 ¶s 178, 182-183 “in Step S108, the user-side information processing device performs a process for generating or updating the filename conversion table (manifest file (BUMF)) that includes the filename conversion information for the subsequential data that has been obtained”), (see fig. 19 ¶ 218 “The server 131 performs the process for providing the subsequential data, and performs a process for receiving a filename conversion table (manifest file (BUMF)) that has been generated or updated in the information processing device
100, generating the file tampering validation data (BUSF), and sending the file tampering validation data (BUSF) to the information processing device 100”); by the playback apparatus, performing a package update from a disk package to a virtual package, based on the BUMF information, the SF information and the playlist information (see figs. 1, 7-8 ¶s 123-125, 129 “Processes are required to generate or update the manifest file (BUMF) and control data, and to generate or update the file tampering validation data (BUSF), each time this type of subsequential data is obtained”), (see fig. 11 ¶ 161 “The user-side information processing device stores the files of the subsequential data itself, for example, the AVStream, the ClipInfo, the PlayList, and so forth, and then performs the process of generating or updating the download file local control information and the control data such as the downloaded content list”), (see fig. 15 ¶s 170-176 “Next, in the Step S207, three types of information are referenced to generate or update the download file local control information (shown in FIG. 8”)”, (see fig. 11 ¶s 178, 181-185 “in Step S108, the user-side information processing device performs a process for generating or updating the filename conversion table (manifest file (BUMF)) that includes the filename conversion information for the subsequential data that has been obtained”); by the channel service providing server, progressively generating clips constituting streaming data and also generating clip information about each clip (see fig. 11 ¶s 156-163 “The user-side information processing device stores the files of the subsequential data itself, for example, the AVStream, the ClipInfo, the PlayList, and so forth, and then performs the process of generating or updating
the download file local control information and the control data such as the
downloaded content list”); by the playback apparatus, receiving a first clip and first
clip information about the first clip from the channel service providing server according
to the request for a clip information (see fig. 11 ¶s 156-163 “In Step S106, the server
sends, to the user-side information processing device, data corresponding to the
specified content. Specifically, download data that is selected by the download
data file ID in the content list explained above in reference to FIG. 12 (the
subsequent data itself, such as subtitles: for example, the AVStream, Clipinfo,
or PlayList files, or the like) are sent to the user-side information processing
device”), (see fig. 15 ¶ 170 “allocated as the VFS filenames corresponding to each
of the files (the clip information (ClipInfo) file, the clip AV stream (ClipAVStream)
file, the play list (PlayList) file, etc.) that structure the subsequential data that is
received”), (see ¶ 426 “AVClips, Clip information making up one pieces of
volume data are obtained. AVClips, Clip information, when such additional
contents are obtained after these processes, the additional contents are provided
to a www server and sent to playback apparatus upon request” when the
playback apparatus makes a request for Clip information to the channel service
providing server (i.e. server), the playback apparatus will receive the clip
information from the channel service providing server according to the request
for a clip information); and by the playback apparatus, receiving a second clip and
second clip information about the second clip from the channel service providing server
(see fig. 11 ¶s 156-163 “In Step S106, the server sends, to the user-side
information processing device, data corresponding to the specified content.

Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like) are sent to the user-side information processing device”), (see fig. 15 ¶ 170 “allocated as the VFS filenames corresponding to each of the files (the clip information (ClipInfo) file, the clip AV stream (ClipAVStream) file, the play list (PlayList) file, etc.) that structure the subsequential data that is received”)

Takashima fails to explicitly teach and then playing the first clip, and then playing the second clip. However, the reference of Yahata explicitly teaches and then playing the first clip, and then playing the second clip (see ¶ 140 “an AVClip that is stored in the local storage and played back with a MainClip is called the "SubClip"”), (see fig. 12 ¶ 163 “"Clip_Information_file_name" that indicates the file name of the playback section information of the AVClip to which the IN point and the OUT point of the playback section belong”), (see figs. 16, 18-19 ¶s 188, 201, 203, 209, 222, 455, 463 “Whereas the Mainpath is a playback path defined for the MainClip which is a main video, the Subpath is a playback path defined for the SubClip which synchronizes with the MainPath”)

Therefore, taking the combined teachings of Takashima and Yahata as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (playback) into the system of Takashima at the time the invention was made as taught by Yahata.
One will be motivated to incorporate the feature playback into the system of Takashima as taught by Yahata for the benefit of implementing an Out-of-MUX framework which is a technology that simultaneously reads a digital stream recorded on a read-only recording medium, such as a BD-ROM, and a digital stream recorded in a local storage, which is a rewritable recording medium, supplies them to a decoder, and then plays back them synchronously in order to improve efficiency (see ¶ 2).

Furthermore, Takashima fails to explicitly teach by a playback apparatus, transmitting a request for the channel service selected in a channel list to a channel service providing server. However, the reference of Chen explicitly teaches by a playback apparatus, transmitting a request for the channel service selected in a channel list to a channel service providing server (see fig. 3 ¶s 40-41 (channel service providing server (i.e. Process unit 102)) “Process unit 102 is used for responding to service information inquiries, receiving requests from subscriber terminal 200, updating the authorization information of the subscriber terminal, and sending a new channel list to terminal service management unit 201 in subscriber terminal 200”), (see fig. 4 ¶s 45, 51-53 (channel service providing server (i.e. IPTV application apparatus 100)) “s402: The IPTV application apparatus receives a request from a subscriber terminal. s404: The IPTV application apparatus sends a new channel list to the subscriber terminal”)

Therefore, taking the combined teachings of Takashima and Chen as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature
(request) into the system of Takashima at the time the invention was made as taught by Chen.

One will be motivated to incorporate the feature request into the system of Takashima as taught by Chen for the benefit of implementing an IPTV live broadcast service for receiving a request from a subscriber terminal in order to improve efficiency (see ¶s 8-9)

Tanaka also discloses by the playback apparatus, receiving a first clip and first clip information about the first clip from the channel service providing server according to the request for a clip information (see figs. 19, 22, 24 ¶s 181-191, 195 by the playback apparatus, receiving a first clip and first clip information about the first clip from the channel service providing server according to the request for a clip information); and by the playback apparatus, receiving a second clip and second clip information about the second clip from the channel service providing server and then playing the first clip (see figs. 19, 24, 28 ¶s 195, 202-204 for playing the clips)

Therefore, taking the combined teachings of Takashima and Tanaka as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (receiving) into the system of Takashima at the time the invention was made as taught by Tanaka.

One will be motivated to incorporate the feature receiving into the system of Takashima as taught by Tanaka for the benefit of having a playback apparatus which
receives clip information from a channel service providing server (i.e. server) according to the request for clip information in order to improve efficiency (see fig. 24 ¶ 195)

Furthermore, Takashima fails to explicitly teach by the playback apparatus, transmitting a request for a clip information to the channel service providing server after performing the package update. However, the reference of Tanaka explicitly teaches by the playback apparatus, transmitting a request for a clip information to the channel service providing server after performing the package update (see fig. 26 ¶ 199 by the playback apparatus, transmitting a request for a clip information to the channel service providing server after performing the package update)

Therefore, taking the combined teachings of Takashima and Tanaka as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (request) into the system of Takashima at the time the invention was made as taught by Tanaka.

One will be motivated to incorporate the feature request into the system of Takashima as taught by Tanaka for the benefit of having a playback apparatus which transmits a request for variable information (i.e. AVClips, clip information) after the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information (i.e. Playlist) in order to improve efficiency (see figs. 19, 22, 24 ¶ 195)
Re claim 20, the combination of Takashima, Yahata, Chen and Tanaka as discussed in claim 19 above discloses all the claim limitations with additional claimed feature taught by Takashima when the BUMF information is configured in a manner that the first clip through an n-th clip are sequentially received, by the channel service providing server, after generating the n-th clip, configuring subsequent streaming data into another first clip through n-th clip, wherein the n is a natural number equal to or greater than two (see fig. 1, 11 ¶ 148, 150-152 “The server references the information regarding the content that is possessed, received from the user information processing device, generates a list of content corresponding to the content that can be provided to the user, and then, in Step S103, sends this list to the user-side information processing device; owned content information is received by the server from the user information processing device through the communication unit” in which the communication unit (i.e. network) as illustrated in figure 1 is used by the servers to transmit such information to the user device; hence, the channel service providing server are such servers. However, the reference of Chen discloses below the channel service providing server), (see fig. 11 ¶¶s 156-163 “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like)) are sent to the user-side information processing device” since the n refers to clips,
the n can be a natural number equal to or greater than two), (see fig. 15 ¶ 170
“allocated as the VFS filenames corresponding to each of the files (the clip
information (ClipInfo) file, the clip AV stream (ClipAVStream) file, the play list
(PlayList) file, etc.) that structure the subsequent data that is received” since
the n refers to clips, the n can be a natural number equal to or greater than two),
(see fig. 11 ¶s 178, 181-185 “in Step S108, the user-side information processing
device performs a process for generating or updating the filename conversion
table (manifest file (BUMF)) that includes the filename conversion information for
the subsequent data that has been obtained”)

Takashima fails to explicitly teach and played. However, the reference of Yahata
explicitly teaches and played (see ¶ 140 “an AVClip that is stored in the local
storage and played back with a MainClip is called the "SubClip"”), (see fig. 12 ¶
163 “"Clip_information file_name" that indicates the file name of the playback
section information of the AVClip to which the IN point and the OUT point of the
playback section belong”), (see figs. 16, 18-19 ¶s 188, 201, 203, 209, 222, 455, 463
“Whereas the Mainpath is a playback path defined for the MainClip which is a
main video, the Subpath is a playback path defined for the SubClip which
synchronizes with the MainPath”)

Therefore, taking the combined teachings of Takashima, Yahata, Chen and
Tanaka as a whole, it would have been obvious to one of ordinary skills in the art to
incorporate this feature (playback) into the system of Takashima at the time the
invention was made as taught by Yahata.
Per claim 20, Takashima and Yahata are combined for the same motivation as set forth in claim 19 above.

Furthermore, Takashima fails to explicitly teach channel service providing server. However, the reference of Chen explicitly teaches channel service providing server (see fig. 3 ¶s 40-41 (channel service providing server (i.e. Process unit 102)) “Process unit 102 is used for responding to service information inquiries, receiving requests from subscriber terminal 200, updating the authorization information of the subscriber terminal, and sending a new channel list to terminal service management unit 201 in subscriber terminal 200”), (see fig. 4 ¶s 45, 51-53 (channel service providing server (i.e. IPTV application apparatus 100)) “s402: The IPTV application apparatus receives a request from a subscriber terminal. s404: The IPTV application apparatus sends a new channel list to the subscriber terminal”)

Therefore, taking the combined teachings of Takashima, Yahata, Chen and Tanaka as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (channel) into the system of Takashima at the time the invention was made as taught by Chen.

One will be motivated to incorporate the feature channel into the system of Takashima as taught by Chen for the benefit of generating a channel list for the subscriber terminal according to the authorization information in order to improve efficiency (see ¶ 11)
4. Claims 21, 26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yahata et al. (US 2009/0097821 A1) (hereinafter Yahata), and further in view of Chen (US 2008/0244658 A1) (hereinafter Chen), and further in view of Tanaka et al. (US 2007/0086727 A1) (hereinafter Tanaka).

Re claim 21, Yahata discloses a method of providing a channel service by a channel service providing server, the method comprising steps of: (a) transmitting fixed information on format of streaming data of a selected channel service to a playback apparatus (see fig. 22 ¶ 239 “the temporal transition of the total transmission amount is as shown by the solid curve; the total data amount is the sum amount of TS packets belonging to streams that have been allowed in the STN table”), (see figs. 1, 33 ¶s 94, 429 “The playback apparatus 300 is also able to download content from a server 700 of a movie distributor via a network” in which the network as illustrated in figure 1 is used by the server to transmit such information to the playback apparatus; hence, the channel service providing server are such servers. However, the reference of Chen discloses below the channel service providing server), (see figs. 14 & 16 ¶s 185-186 “a file (00002.mpls) to which extension ”mpls” is attached is information that defines a group made by binding up two types of playback paths called MainPath and Subpath as playlist (PL)” which are fixed information), (see ¶ 426 “PlayList information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request” in which PlayList information is fixed information); (b)
after step (a), generating one or more clips from the streaming data according to the fixed information (see figs. 18, 31, 43 ¶s 209, 391, 397, 435-438, 526 “The verification unit 63 judges, by referring to the STN_table in the PlayList information generated by the scenario converter 61” In which generating one or more clips from the streaming data according to the fixed information; in which PlayList information is fixed information); (c) after step (b), generating variable information on each of the one or more clips when a request for the variable information is received (see fig. 3 ¶s 105, 123-124, 435-438 “The AVClip is a digital stream in the MPEG2-Transport Stream format. The digital stream is generated by converting the digitized video and audio (upper Level 1) into an elementary stream composed of PES packets (upper Level 2), and converting the elementary stream into TS packets (upper Level 3), and similarly, converting the Presentation Graphics (PG) stream for the subtitles or the like and the Interactive Graphics (IG) stream for the interactive purposes (lower Level 1 and lower Level 2) into the TS packets (lower Level 3), and then finally multiplexing these TS packets.” In which generating variable information such as AVClip), (see ¶ 426 “AVClips, Clip information making up one pieces of volume data are obtained. “AVClips, Clip information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request” in which generating variable information such as AVClips, Clip information on each of the one or more clips when a request for the variable information is received); (d) after step (c), transmitting the variable
information to the playback apparatus according to a transmission request for the variable information received from the playback apparatus (see ¶ 426 “AVClips, Clip information making up one pieces of volume data are obtained. AVClips, Clip information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request” in which AVClips, Clip information are variable information transmitted to the playback apparatus upon request); (e) after step (d), storing the streaming data including the one or more clips in a storage space of the channel service providing server (see fig. 9 ¶ 140 “an AVClip that is stored in the local storage and played back with a MainClip is called the "Sub-Clip"” in which AVClip is digital stream data), (see fig. 14 ¶s 168 & 171 “the following information is stored: PlayList information; Clip information; and AVClips” in which AVClip is digital stream data); and (f) after step (e), transmitting the streaming data including the one or more clips to the playback apparatus (see figs. 22, 23A-23B ¶s 239-240 “this indicates that the data amount supplied from the BD-ROM and the local storage is limited to the transmittable amount or less in any window”), (see ¶ 426 “AVClips, Clip information and PlayList information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request” in which AVClip is digital stream data)

Yahata fails to explicitly teach channel service providing server. However, the reference of Chen explicitly teaches channel service providing server (see fig. 3 ¶s 40-
41 (channel service providing server (i.e. Process unit 102)) “Process unit 102 is used for responding to service information inquiries, receiving requests from subscriber terminal 200, updating the authorization information of the subscriber terminal, and sending a new channel list to terminal service management unit 201 in subscriber terminal 200”), (see fig. 4 ¶¶s 45, 51-53 (channel service providing server (i.e. IPTV application apparatus 100)) “s402: The IPTV application apparatus receives a request from a subscriber terminal. s404: The IPTV application apparatus sends a new channel list to the subscriber terminal”)

Therefore, taking the combined teachings of Yahata and Chen as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (channel) into the system of Yahata at the time the invention was made as taught by Chen.

One will be motivated to incorporate the feature channel into the system of Yahata as taught by Chen for the benefit of generating a channel list for the subscriber terminal according to the authorization information in order to improve efficiency (see ¶ 11)

Tanaka also discloses (d) after step (c), transmitting the variable information to the playback apparatus according to a transmission request for the variable information received from the playback apparatus (see figs. 19, 22, 24 ¶¶s 181-191, 195 for transmitting the variable information (i.e. AVClips, Clip information) to the playback apparatus according to a transmission request for the variable information received from the playback apparatus)
Therefore, taking the combined teachings of Yahata and Tanaka as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (request) into the system of Yahata at the time the invention was made as taught by Tanaka.

One will be motivated to incorporate the feature request into the system of Yahata as taught by Tanaka for the benefit of having a playback apparatus which transmits a request for variable information (i.e. AVClips, clip information) after the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information (i.e. Playlist) in order to improve efficiency (see figs. 19, 22, 24 ¶ 195).

Furthermore, Yahata fails to explicitly teach wherein the transmission request for the variable information is transmitted from the playback apparatus after the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information. However, the reference of Tanaka explicitly teaches wherein the transmission request for the variable information is transmitted from the playback apparatus after the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information (see figs. 19, 22, 24 ¶s 181-191, 195 for the transmission request for the variable information is transmitted from the playback apparatus after the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information. In which paragraphs 181-191 describe the playback apparatus configures a virtual package
for a playback of the streaming data based on the fixed information (i.e. Playlist) and paragraph 195 describes the transmission request for the variable information (i.e. AVClips, Clip information) is transmitted from the playback apparatus.

Therefore, taking the combined teachings of Yahata and Tanaka as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (request) into the system of Yahata at the time the invention was made as taught by Tanaka.

One will be motivated to incorporate the feature request into the system of Yahata as taught by Tanaka for the benefit of having a playback apparatus which transmits a request for variable information (i.e. AVClips, clip information) after the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information (i.e. Playlist) in order to improve efficiency (see figs. 19, 22, 24 ¶ 195)

Re claim 26, the combination of Yahata, Chen and Tanaka as discussed in claim 21 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein step (c) comprises generating the variable information associated with the generated clip, before the entirety of the one or more clips are generated (see fig. 3 ¶s 105, 123-124, 435-438 "The AVClip is a digital stream in the MPEG2-Transport Stream format. The digital stream is generated by converting the digitized video and audio (upper Level 1) into an elementary stream composed of PES packets
(upper Level 2), and converting the elementary stream into TS packets (upper Level 3), and similarly, converting the Presentation Graphics (PG) stream for the subtitles or the like and the Interactive Graphics (IG) stream for the interactive purposes (lower Level 1 and lower Level 2) into the TS packets (lower Level 3), and then finally multiplexing these TS packets." In which generating variable information such as AVClip associated with the generated clip, before the entirety of the one or more clips are generated), (see ¶ 426 “AVClips, Clip information making up one pieces of volume data are obtained. “AVClips, Clip information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request” in which the AVClips, Clip information are variable information)

Re claim 28, the combination of Yahata, Chen and Tanaka as discussed in claim 21 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein step (f) comprises transmitting the one or more clips corresponding to clip in formation included in the variable information upon a transmission request for the one or more clips from the playback apparatus (see ¶ 426 “AVClips, Clip information making up one pieces of volume data are obtained. AVClips, Clip information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request” in which AVClips, Clip information are variable information)
5. Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yahata et al. (US 2009/0097821 A1) (hereinafter Yahata) as applied to claims 21, 26 and 28 above, and further in view of Chen (US 2008/0244658 A1) (hereinafter Chen), and further in view of Tanaka et al. (US 2007/0086727 A1) (hereinafter Tanaka), and further in view of Takashima et al. (US 2009/0271411 A1) (hereinafter Takashima).

Re claim 22, the combination of Yahata, Chen and Tanaka as discussed in claim 21 above discloses all the claim limitations with additional claimed feature taught by Yahata the fixed information (see ¶ 426 for fixed information such as PlayList information)

Yahata fails to explicitly teach wherein the fixed information includes BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information. However, the reference of Takashima explicitly teaches wherein the fixed information includes BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information (see figs. 4, 6, 7, 14-16 ¶¶s 74-75, 80, 97, 99-102, 106, 112-114, 117-124, 129-131, 135, 139-140, 145, 156, 158, 161, 163, 169-170, 178-186, 189, 194-199, 206-211, 216-221, 227, 230, 233-235, 238-239, 240-242 for BUMF information, SF information and playlist information)

Therefore, taking the combined teachings of Yahata, Chen, Tanaka and Takashima as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (SF information) into the system of Yahata at the time the invention was made as taught by Takashima.
One will be motivated to incorporate the feature SF information into the system of Yahata as taught by Takashima for the benefit of implementing a file tampering validation data (e.g., Binding Unit Signature File (BUMF), which is a signature setting file wherein a server private key for providing the substantial data is applied to the data that structures the BUMF in order to enable the performance of strict usage control of the subsequential data (see ¶ 12).

**Re claim 23,** the combination of Yahata, Chen and Tanaka as discussed in claim 21 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the fixed information includes signature information (see ¶ 426 “PlayList information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request” in which PlayList information is fixed information), (see ¶ 575 “a signature information be attached thereto, and a use authorization be specified in a permission file.”) and download information of the streaming data (see ¶s 94 for download information of the streaming data), the signature information enabling a verification of the validity of the streaming data (see ¶ 575 “a signature information be attached thereto, and a use authorization be specified in a permission file.”), the download information including an order for downloading the one or more clips included in the streaming data (see fig. 13 ¶s 94, 171, 435-437 for download information including an order for downloading the one or more clips included in the streaming data)
Takashima also discloses wherein the fixed information includes signature information (see figs. 4, 6, 7, 14-16 ¶s 74-75, 80, 97, 99-102, 106, 112-114, 117-124, 129-131, 135, 139-140, 145, 156, 158, 161, 163, 169-170, 178-186, 189, 194-199, 206-211, 216-221, 227, 230, 233-235, 238-239, 240-242 for fixed information includes signature information) and download information of the streaming data (see figs. 3-4, 11, 14 ¶s 155-162 for download information of the streaming data), the signature information enabling a verification of the validity of the streaming data (see figs. 4, 6, 7, 14-16 ¶s 74-75, 80, 97, 99-102, 106, 112-114, 117-124, 129-131, 135, 139-140, 145, 156, 158, 161, 163, 169-170, 178-186, 189, 194-199, 206-211, 216-221, 227, 230, 233-235, 238-239, 240-242 for signature information enabling a verification of the validity of the streaming data), the download information including an order for downloading the one or more clips included in the streaming data (see figs. 3-4, 11, 14 ¶s 155-162 for download information including an order for downloading the one or more clips included in the streaming data)

Therefore, taking the combined teachings of Yahata, Chen, Tanaka and Takashima as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (SF information) into the system of Yahata at the time the invention was made as taught by Takashima.

Per claim 23, Yahata, Chen, Tanaka and Takashima are combined for the same motivation as set forth in claim 22 above.

6. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yahata et al. (US 2009/0097821 A1) (hereinafter Yahata) as applied to claims 21, 26
and 28 above, and further in view of Chen (US 2008/0244658 A1) (hereinafter
Chen), and further in view of Tanaka et al. (US 2007/0086727 A1) (hereinafter
Tanaka), and further in view of Seo et al. (US 2006/0153022 A1) (hereinafter Seo).

Re claim 24, the combination of Yahata, Chen and Tanaka as discussed in claim
21 above discloses all the claimed limitations but fails to explicitly teach wherein the
streaming data include a first clip to n-th clip, the n-th clip being downloaded while a (n-
1)-th clip is played, the n-th clip being played after the (n-1)-th clip is completely played,
wherein the n is a natural number equal to or greater than two. However, the reference
of Seo explicitly teaches wherein the streaming data include a first clip to n-th clip (see
figs. 2, 7-10 ¶¶s 76, 129, 138, 140, 142, 151, 164-167, 169-170-172 for streaming data
include a first clip to n-th clip), the n-th clip being downloaded while a (n-1)-th clip is
played, the n-th clip being played after the (n-1)-th clip is completely played, wherein the
n is a natural number equal to or greater than two (see figs. 2, 7, 9-10 ¶¶s 97, 124-126,
131, 142, 164-167, 169 for the n-th clip being downloaded while a (n-1)-th clip is
played, the n-th clip being played after the (n-1)-th clip is completely played, and
since the n refers to clips, the n can be a natural number equal to or greater than
two)

Therefore, taking the combined teachings of Yahata, Chen, Tanaka and Seo as a
whole, it would have been obvious to one of ordinary skills in the art to incorporate this
feature (download) into the system of Yahata at the time the invention was made as
taught by Seo.
One will be motivated to incorporate the feature download into the system of Yahata as taught by Seo for the benefit of using the storage capacity of a local storage for downloading data associated with the recording medium, and storing the downloaded data in order to improve efficiency (see ¶ 27).

7. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yahata et al. (US 2009/0097821 A1) (hereinafter Yahata) as applied to claims 21, 26 and 28 above, and further in view of Chen (US 2008/0244658 A1) (hereinafter Chen), and further in view of Tanaka et al. (US 2007/0086727 A1) (hereinafter Tanaka), and further in view of Svanbro et al. (US 2005/0125533 A1) (hereinafter Svanbro).

Re claim 25, the combination of Yahata, Chen and Tanaka as discussed in claim 21 above discloses all the claimed limitations but fail to explicitly teach wherein when a live broadcasting is provided within a predetermined period of time, step (b) comprising: (b1) generating the one or more clips from the streaming data corresponding to the live broadcasting of a first part of the predetermined period of time; and (b2) generating the one or more clips from the streaming data corresponding to the live broadcasting of a second part of the predetermined period of time. However, the reference of Svanbro explicitly teaches wherein when a live broadcasting is provided within a predetermined period of time, step (b) comprising: (b1) generating the one or more clips from the streaming data corresponding to the live broadcasting of a first part of the predetermined period of time; and (b2) generating the one or more clips from the streaming data corresponding to the live broadcasting of a second part of the
predetermined period of time (see figs. 1-3, 6 ¶¶s 41, 51, 56-57, 64-65, 90-96 for (b1) generating the one or more clips from the streaming data corresponding to the live broadcasting of a first part of the predetermined period of time; and (b2) generating the one or more clips from the streaming data corresponding to the live broadcasting of a second part of the predetermined period of time)

Therefore, taking the combined teachings of Yahata, Chen, Tanaka and Svanbro as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (clips) into the system of Yahata at the time the invention was made as taught by Svanbro.

One will be motivated to incorporate the feature clips into the system of Yahata as taught by Svanbro for the benefit of sending individually selected multimedia content on demand, e.g. files or content, or clips or live, or moving pictures to a large number of end user stations without having to rely on bandwidth consuming unicast on IP networks in order to improve efficiency (see ¶ 28)

8. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yahata et al. (US 2009/0097821 A1) (hereinafter Yahata) as applied to claims 21, 26 and 28 above, and further in view of Chen (US 2008/0244658 A1) (hereinafter Chen), and further in view of Tanaka et al. (US 2007/0086727 A1) (hereinafter Tanaka), and further in view of Berger (US 2007/0198468 A1) (hereinafter Berger).

Re claim 27, the combination of Yahata, Chen and Tanaka as discussed in claim 21 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein step (e) comprises storing the one or more clips in circular queue (see
fig. 9 ¶ 140 “an AVClip that is stored in the local storage and played back with a
MainClip is called the "Sub-Clip"), (see fig. 14 ¶s 168 & 171 “the following
information is stored: PlayList information; Clip information; and AVClips”)

Yahata fails to explicitly teach wherein step (e) comprises storing the one or
more clips in circular queue. However, the reference of Berger explicitly teach wherein
step (e) comprises storing the one or more clips in circular queue (see fig. 8 ¶s 70 for
storing the one or more clips in circular queue)

Therefore, taking the combined teachings of Yahata, Chen, Tanaka and Berger
as a whole, it would have been obvious to one of ordinary skills in the art to incorporate
this feature (queue) into the system of Yahata at the time the invention was made as
taught by Berger.

One will be motivated to incorporate the feature queue into the system of Yahata
as taught by Berger for the benefit of transmitting all content items in the queue
repeatedly in order to ease the processing time and improve efficiency (see ¶ 6)

9. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over
Takashima et al. (US 2009/0271411 A1) (hereinafter Takashima), and further in
view of Chen (US 2008/0244658 A1) (hereinafter Chen), and further in view of

Re claim 29, Takashima discloses a method of providing a channel service by a
playback apparatus supporting a BD-J specification, the method comprising steps of:
generating a first request for the channel service according to a user input (see fig. 11
¶s 146-147 “This information is sent to the server in Step S102, and a list of the
subsequent data (i.e., a list of content) that can be provided in response to the
content that is possessed is requested.”); transmitting the first request to a channel
service providing server (see ¶s 155-156 “A content acquisition request is sent to
the server by this process. The content acquisition request is sent to the server
as the content selection instruction in Step S105 illustrated in FIG. 11.”); receiving
fixed information on format of streaming data of a selected channel service from the
channel service providing server (see fig. 1, 11 ¶ 148, 150-152 “The server
references the information regarding the content that is possessed, received from
the user information processing device, generates a list of content corresponding
to the content that can be provided to the user, and then, in Step S103, sends this
list to the user-side information processing device; owned content information is
received by the server from the user information processing device through the
communication unit” in which the communication unit (i.e. network) as illustrated
in figure 1 is used by the servers to transmit such information to the user device;
therefore, the channel service providing server are such servers. However, the
reference of Chen discloses below the channel service providing server), (see fig.
11 ¶s 156-163 “In Step S106, the server sends, to the user-side information
processing device, data corresponding to the specified content. Specifically,
download data that is selected by the download data file ID in the content list
explained above in reference to FIG. 12 (the subsequent data itself, such as
subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like)) are
sent to the user-side information processing device” in which PlayList files are
fixed information), (see fig. 15 ¶ 170 “allocated as the VFS filenames corresponding to each of the files (the clip information (ClipInfo) file, the clip AV stream (ClipAVStream) file, the play list (PlayList) file, etc.) that structure the subsequential data that is received” in which PlayList files are fixed information), the fixed information including BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information (see fig. 11 ¶s 156-163 “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to Fig. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like)) are sent to the user-side information processing device”), (see fig. 11 ¶s 178, 182-183 “In Step S108, the user-side information processing device performs a process for generating or updating the filename conversion table (manifest file (BUMF)) that includes the filename conversion information for the subsequential data that has been obtained”), (see fig. 19 ¶ 218 “The server 131 performs the process for providing the subsequential data, and performs a process for receiving a filename conversion table (manifest file (BUMF)) that has been generated or updated in the information processing device 100, generating the file tampering validation data (BUSF), and sending the file tampering validation data (BUSF) to the information processing device 100”); configuring a virtual package to play the streaming data based on the fixed information (see figs. 3, 6-9 ¶s 124-142 for configuring a virtual
package to play the streaming data based on the fixed information); transmitting a second request for a variable information on each of one or more clips generated by the channel service providing server to the channel service providing server after configuring the virtual package (see ¶s 155-156 “A content acquisition request is sent to the server by this process. The content acquisition request is sent to the server as the content selection instruction in Step S105 illustrated in FIG. 11.”); receiving the variable information from the channel service providing server (see fig. 11 ¶s 156-163 “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, ClipInfo, or PlayList files, or the like) are sent to the user-side information processing device” in which the clip information (ClipInfo) file and the clip AV stream (ClipAVStream) file are variable information), (see fig. 15 ¶ 170 “allocated as the VFS filenames corresponding to each of the files (the clip information (ClipInfo) file, the clip AV stream (ClipAVStream) file, the play list (PlayList) file, etc.) that structure the subsequential data that is received” in which the clip information (ClipInfo) file and the clip AV stream (ClipAVStream) file are variable information); generating a transmission request for the one or more clips corresponding to clip information included in the variable information (see fig. 11 ¶s 146-147 “This information is sent to the server in Step S102, and a list of the subsequential data (i.e., a list of content) that can be provided in response to the
content that is possessed is requested.”), (see fig. 11 ¶s 155-163 “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like)) are sent to the user-side information processing device” in which the clip information (ClipInfo) file and the clip AV stream (ClipAVStream) file are variable information), (see fig. 15 ¶ 170 “allocated as the VFS filenames corresponding to each of the files (the clip information (ClipInfo) file, the clip AV stream (ClipAVStream) file, the play list (PlayList) file, etc.) that structure the subsequential data that is received” in which the clip information (ClipInfo) file and the clip AV stream (ClipAVStream) file are variable information); and receiving the streaming data including the one or more clips from the channel service providing server (see fig. 11 ¶s 156-163 “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like)) are sent to the user-side information processing device”), (see fig. 15 ¶ 170 “allocated as the VFS filenames corresponding to each of the files (the clip information (ClipInfo) file,
the clip AV stream (ClipAVStream) file, the play list (PlayList) file, etc.) that
structure the subsequential data that is received”)

Takashima fails to explicitly teach channel service providing server. However, the
reference of Chen explicitly teaches channel service providing server (see fig. 3 ¶¶s 40-
41 (channel service providing server (i.e. Process unit 102)) “Process unit 102 is
used for responding to service information inquiries, receiving requests from
subscriber terminal 200, updating the authorization information of the subscriber
terminal, and sending a new channel list to terminal service management unit 201
in subscriber terminal 200”), (see fig. 4 ¶¶s 45, 51-53 (channel service providing
server (i.e. IPTV application apparatus 100)) “s402: The IPTV application
apparatus receives a request from a subscriber terminal. s404: The IPTV
application apparatus sends a new channel list to the subscriber terminal”)

Therefore, taking the combined teachings of Takashima and Chen as a whole, it
would have been obvious to one of ordinary skills in the art to incorporate this feature
(channel) into the system of Takashima at the time the invention was made as taught by
Chen.

One will be motivated to incorporate the feature channel into the system of
Takashima as taught by Chen for the benefit of generating a channel list for the
subscriber terminal according to the authorization information in order to improve
efficiency (see ¶ 11)
Tanaka also discloses configuring a virtual package to play the streaming data based on the fixed information (see figs. 19, 22, 24, 28 ¶s 181-191, 195, 202-204 for configuring a virtual package to play the streaming data based on the fixed information (i.e. Playlist)); transmitting a second request for a variable information on each of one or more clips generated by the channel service providing server to the channel service providing server after configuring the virtual package (see figs. 19, 22, 24 ¶s 181-191, 195 for transmitting a second request for a variable information (i.e. AVClips, clip information) on each of one or more clips generated by the channel service providing server (i.e. server) to the channel service providing server after configuring the virtual package)

Therefore, taking the combined teachings of Takashima and Tanaka as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (request) into the system of Takashima at the time the invention was made as taught by Tanaka.

One will be motivated to incorporate the feature request into the system of Takashima as taught by Tanaka for the benefit of having a playback apparatus which transmits a request for variable information (i.e. AVClips, clip information) after the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information (i.e. Playlist) in order to improve efficiency (see figs. 19, 22, 24 ¶ 195)

10. **Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takashima et al. (US 2009/0271411 A1) (hereinafter Takashima) as applied to**
claim 29 above, and further in view of Chen (US 2008/0244658 A1) (hereinafter Chen), and further in view of Tanaka et al. (US 2007/0086727 A1) (hereinafter Tanaka), and further in view of Seo et al. (US 2006/0153022 A1) (hereinafter Seo).

Re claim 30, the combination of Takashima, Chen and Tanaka as discussed in claim 29 above discloses all the claim limitations with additional claimed feature taught by Takashima wherein the BUMF information is configured in a manner that a first clip through an n-th clip are sequentially received and played, the method further comprising: sequentially receiving first clip information through n-th clip information generated by the channel service providing server; wherein the n is a natural number equal to or greater than two (see fig. 1, 11 ¶ 148, 150-152 “The server references the information regarding the content that is possessed, received from the user information processing device, generates a list of content corresponding to the content that can be provided to the user, and then, in Step S103, sends this list to the user-side information processing device; owned content information is received by the server from the user information processing device through the communication unit” in which the communication unit (i.e. network) as illustrated in figure 1 is used by the servers to transmit such information to the user device; hence, the channel service providing server are such servers. However, the reference of Chen discloses below the channel service providing server), (see fig. 11 ¶s 156-163 “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list
explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like) are sent to the user-side information processing device” since the n refers to clips, the n can be a natural number equal to or greater than two), (see fig. 15 ¶ 170 “allocated as the VFS filenames corresponding to each of the files (the clip information (ClipInfo) file, the clip AV stream (ClipAVStream) file, the play list (PlayList) file, etc.) that structure the subsequential data that is received” since the n refers to clips, the n can be a natural number equal to or greater than two), (see fig. 11 ¶s 178, 181-185 “in Step S108, the user-side information processing device performs a process for generating or updating the filename conversion table (manifest file (BUMF)) that includes the filename conversion information for the subsequential data that has been obtained”)

Takashima fails to explicitly teach and sequentially receiving and playing a clip corresponding to the clip information that has finished downloading. However, the reference of Seo explicitly teaches and sequentially receiving and playing a clip corresponding to the clip information that has finished downloading (see figs. 7, 9 ¶s 97, 124-126, 132, 140, 166 “The first PlayList can be played after all data reproduced by the PlayList has been completely downloaded” in which the PlayList comprises the clips being played back)

Therefore, taking the combined teachings of Takashima, Chen, Tanaka and Seo as a whole, it would have been obvious to one of ordinary skills in the art to incorporate
this feature (download) into the system of Takashima at the time the invention was made as taught by Seo.

One will be motivated to incorporate the feature download into the system of Takashima as taught by Seo for the benefit of using the storage capacity of a local storage for downloading data associated with the recording medium, and storing the downloaded data in order to improve efficiency (see ¶ 27)

Furthermore, Takashima fails to explicitly teach channel service providing server. However, the reference of Chen explicitly teaches channel service providing server (see fig. 3 ¶s 40-41 (channel service providing server (i.e. Process unit 102)) “Process unit 102 is used for responding to service information inquiries, receiving requests from subscriber terminal 200, updating the authorization information of the subscriber terminal, and sending a new channel list to terminal service management unit 201 in subscriber terminal 200”), (see fig. 4 ¶s 45, 51-53 (channel service providing server (i.e. IPTV application apparatus 100)) “s402: The IPTV application apparatus receives a request from a subscriber terminal. s404: The IPTV application apparatus sends a new channel list to the subscriber terminal”)

Therefore, taking the combined teachings of Takashima, Chen and Tanaka as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (channel) into the system of Takashima at the time the invention was made as taught by Chen.
One will be motivated to incorporate the feature channel into the system of Takashima as taught by Chen for the benefit of generating a channel list for the subscriber terminal according to the authorization information in order to improve efficiency (see ¶ 11).

**Conclusion**

Applicant’s amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSE MESA whose telephone number is (571)270-1706. The examiner can normally be reached on Monday Thru Thursday from 8:30am to 6:00pm Est. The examiner can also be reached on alternate Monday Thru Friday from 8:30am to 6:00pm Est.
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran, can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://portal.uspto.gov/external/portal. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/J. M./ 11/06/2013
Examiner, Art Unit 2484

/Thai Tran/
Supervisory Patent Examiner, Art Unit 2484
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**NON-PATENT DOCUMENTS**

*Include as applicable: Author, Title, Date, Publisher, Edition or Volume, Pertinent Pages*

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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.
**Search Notes**

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Wonjang BAEK et al. Confirmation No. 4330
Application No. 12/457,508 Group Art Unit: 2484
Filed: June 12, 2009 Examiner: Jose M. MESA

For: METHOD FOR PROVIDING CHANNEL SERVICE

AMENDMENT UNDER 37 CFR 1.111

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

Sir:

This is in response to the Office Action mailed June 6, 2013, and having a period for response set to expire on September 6, 2013.

Reconsideration of the claims is respectfully requested. The following remarks are respectfully submitted.
AMENDMENTS TO THE CLAIMS

The text of all pending claims (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims show added text with underlining and deleted text with strikethrough. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 1, 8, 13-15, 17, 19, 21 and 29, and CANCEL claims 3, 10 and 11 without prejudice or disclaimer, in accordance with the following:

1. (Currently Amended) A method for providing a channel service by a channel service providing server, the method comprising steps of:

   (a) transmitting fixed information associated with streaming data of the channel service to a playback apparatus supporting a BD-J specification according to a request for the channel service received from the playback apparatus;

   (b) after step (a), transmitting variable information associated with the streaming data to the playback apparatus according to a transmission request for the variable information received from the playback apparatus; and

   (c) after step (b), transmitting the streaming data to the playback apparatus, wherein the fixed information includes at least one of BUMF information and SF information associated with the streaming data,

   wherein the transmission request for the variable information is transmitted from the playback apparatus after the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information.

2-3. (Cancelled)

4. (Previously Presented) The method in accordance with claim 3, wherein the variable information includes clip information corresponding to each of one or more clips included in the streaming data.
5. (Original) The method in accordance with claim 4, wherein the step (b) comprises transmitting the clip information to the playback apparatus, and wherein the step (c) comprises transmitting one of the one or more clips corresponding to the clip information to the playback apparatus according to the transmission request.

6. (Original) The method in accordance with claim 4, wherein the step (b) comprises storing the one or more clips in a circular queue in a storage space.

7. (Cancelled)

8. (Currently Amended) A method for providing a channel service by a playback apparatus supporting a BD-J specification, the method comprising steps of:

   (a) receiving fixed information associated with streaming data of the channel service from a channel service providing server according to a request for the channel service included in a user input;

   (b) after step (a), configuring the playback apparatus a virtual package for a playback of the streaming data based on the fixed information;

   (c) after step (b), receiving-transmitting a request for variable information associated with the streaming data to the channel service providing server; and

   (d) receiving the variable information from the channel service providing server according to the request for variable information;

   (d)(e) after step-(e) (d), playing the streaming data based on the fixed information and the variable information,

   wherein the fixed information includes at least one of BUMF information and SF information.

9-11. (Cancelled)
12. (Previously Presented) The method in accordance with claim 8, wherein the variable information includes clip information corresponding to each of one or more clips included in the streaming data.

13. (Currently Amended) The method in accordance with claim 12, wherein the step (c) comprises receiving the clip information, and wherein the step-(d)(e) comprises playing one of the one or more clips corresponding to the clip information.

14. (Currently Amended) The method in accordance with claim 12, wherein the fixed information includes playback sequence information on the one or more clips, and wherein the step-(d)(e) comprises playing the one or more clips according to the playback sequence information.

15. (Currently Amended) The method in accordance with claim 14, further comprises (e)(f) storing the one or more clips including the streaming data in a storage space.

16. (Original) The method in accordance with claim 15, wherein the one or more clips stored in the storage space are in a circular queue.

17. (Currently Amended) The method in accordance with claim 15, wherein the step (d)(e) comprises reading and playing at least one of the one or more clips stored in the storage space, the at least one being selected according to a user input.

18. (Cancelled)

19. (Currently Amended) A method for providing a channel service, the method comprising steps of:

by a playback apparatus, transmitting a request for the channel service selected in a channel list to a channel service providing server;
by the channel service providing server, transmitting BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information for the selected channel service to the playback apparatus;

by the playback apparatus, performing a package update from a disk package to a virtual package, based on the BUMF information, the SF information and the playlist information;

by the playback apparatus, transmitting a request for a clip information to the channel service providing server after performing the package update;

by the channel service providing server, progressively generating clips constituting streaming data and also generating clip information about each clip;

by the playback apparatus, receiving a first clip and first clip information about the first clip from the channel service providing server according to the request for a clip information and then playing the first clip; and

by the playback apparatus, receiving a second clip and second clip information about the second clip from the channel service providing server and then playing the second clip.

20. (Previously Presented) The method of claim 19, further comprising, when the BUMF information is configured in a manner that the first clip through an n-th clip are sequentially received and played, by the channel service providing server, after generating the n-th clip, configuring subsequent streaming data into another first clip through n-th clip, wherein the n is a natural number equal to or greater than two.

21. (Currently Amended) A method of providing a channel service by a channel service providing server, the method comprising steps of:

(a) transmitting fixed information on format of streaming data of a selected channel service to a playback apparatus;

(b) after step (a), generating one or more clips from the streaming data according to the fixed information;

(c) after step (b), generating variable information on each of the one or more clips when a request for the variable information is received;
(d) after step (c), transmitting the variable information to the playback apparatus according to a transmission request for the variable information received from the playback apparatus;

(e) after step (d), storing the streaming data including the one or more clips in a storage space of the channel service providing server; and

(f) after step (e), transmitting the streaming data including the one or more clips to the playback apparatus,

wherein the transmission request for the variable information is transmitted from the playback apparatus after the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information.

22. (Previously Presented) The method in accordance with claim 21, wherein the fixed information includes BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information.

23. (Previously Presented) The method in accordance with claim 21, wherein the fixed information includes signature information and download information of the streaming data, the signature information enabling a verification of the validity of the streaming data, the download information including an order for downloading the one or more clips included in the streaming data.

24. (Previously Presented) The method in accordance with claim 21, wherein the streaming data include a first clip to n-th clip, the n-th clip being downloaded while a (n-1)-th clip is played, the n-th clip being played after the (n-1)-th clip is completely played, wherein the n is a natural number equal to or greater than two.

25. (Previously Presented) The method in accordance with claim 21, wherein when a live broadcasting is provided within a predetermined period of time, step (b) comprising:

(b1) generating the one or more clips from the streaming data corresponding to the live broadcasting of a first part of the predetermined period of time; and
(b2) generating the one or more clips from the streaming data corresponding to the live broadcasting of a second part of the predetermined period of time.

26. (Previously Presented) The method in accordance with claim 21, wherein step (c) comprises generating the variable information associated with the generated clip, before the entirety of the one or more clips are generated.

27. (Previously Presented) The method in accordance with claim 21, wherein step (e) comprises storing the one or more clips in circular queue.

28. (Previously Presented) The method in accordance with claim 21, wherein step (f) comprises transmitting the one or more clips corresponding to clip in formation included in the variable information upon a transmission request for the one or more clips from the playback apparatus.

29. (Currently Amended) A method of providing a channel service by a playback apparatus supporting a BD-J specification, the method comprising steps of:

   (a)—— generating a first request for the channel service according to a user input;

   (b)—— transmitting the first request to a channel service providing server;

   (c)—— receiving fixed information on format of streaming data of a selected channel service from the channel service providing server, the fixed information including BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information;

   (d)—— configuring the playback a virtual package apparatus to play the streaming data based on the fixed information;

   (e)—— transmitting a second request for a variable information on each of one or more clips generated by the channel service providing server to the channel service providing server after configuring the virtual package;

   (f)—— receiving the variable information from the channel service providing server;

   (g)—— generating a transmission request for the one or more clips corresponding to clip
information included in the variable information; and

(h) receiving the streaming data including the one or more clips from the channel service providing server.

30. (Previously Presented) The method in accordance with claim 29, wherein the BUMF information is configured in a manner that a first clip through an n-th clip are sequentially received and played, the method further comprising:

sequentially receiving first clip information through n-th clip information generated by the channel service providing server; and

sequentially receiving and playing a clip corresponding to the clip information that has finished downloading,

wherein the n is a natural number equal to or greater than two.
REMARKS

In accordance with the foregoing, claims 1, 8, 13-15, 17, 19, 21 and 29 have been amended, and claims 3, 10 and 11 have been cancelled without prejudice or disclaimer. Support for the amended features can be found at least in Fig. 2, "Step S130," and the corresponding descriptions in the specification.

Upon entry of this amendment, claims 1, 4-6, 8, 12-17 and 19-30 are pending and under consideration. No new matter within the meaning of 35 U.S.C. § 132 is presented in this Amendment.

REJECTIONS UNDER 35 U.S.C. § 112:

Claims 20, 24, and 30 are rejected under 35 U.S.C. § 112, first paragraph, as allegedly claiming subject matter not found in the specification. Specifically, Examiner argues that the limitation "wherein the n is a natural number equal to or greater than two," present in all three claims, is not disclosed in the specification. Applicants respectfully disagree with Examiner's interpretation of the specification.

It is first noted that, in all three claims rejected above, "n" refers to a number of clips to be played. In the specification, an "n" number of clips is disclosed as follows in ¶ 0103 (paragraph numbering is as in the application as published: U.S. Patent Application Publication No. 2009/0316776 A1):

For instance, when BUMF information is configured in a manner that a first clip through an nth clip are sequentially received and played, the channel service providing server constitutes the streaming data to include the first clip through the nth clip and generate a first clip information through an nth clip information associated with the first clip through the nth clip, respectively.

Applicants assert that "a first clip through an nth clip" cannot be "sequentially received and played" (emphasis added) unless there are at least two such clips. Therefore, support for the limitation is provided in at least ¶ 0103 of the specification.

Therefore, Applicants respectfully request withdrawal of this rejection.
REJECTIONS UNDER 35 U.S.C. § 103:


Without admission as to the correctness of Examiner’s other arguments, including the correctness of the combination of Yahata, Takashima, and Chen, the rejection is incorrect for at least the following reason.

Claim 1 recites, inter alia:

A method for providing a channel service … comprising steps of:
(a) transmitting fixed information …
(b) after step (a), transmitting variable information …
(c) after step (b), transmitting the streaming data …

In the Amendment filed January 9, 2013, Applicants argued on page 10:

No teaching or suggestion is found in Yahata that the AVClips and Clip information (alleged “variable information”) are transmitted to the playback apparatus after the PlayList information (alleged “fixed information”) is transmitted to the same apparatus.

In the present Office Action, Examiner responds on pages 16-17:

First, supposed [sic] that Yahata transmits fixed information (i.e. PlayList information) and variable information (i.e. AVClips and Clip information) to the server as one file as the Applicants stated above. Second, the transmitted fixed information and variable information are then stored in a server. Third, the stored fixed information and variable information are sent to playback apparatuses upon request.

Therefore, a user has a choice to request fixed information (i.e. PlayList information) and variable information (i.e. AVClips and Clip information) either as separated fixed information and variable information or as one file, since paragraph 426 does not state that such information is sent as one file to the playback apparatuses upon request. Instead, paragraph 426 of Yahata states that such fixed information (i.e. PlayList information) and variable information (i.e. AVClips and Clip information) are sent to a server either as one file or as individual fixed information and variable information since it does not explicitly stated [sic] otherwise.
The exact phrasing of Yahata ¶ 426 is as follows:

When a motion picture is composed of BD-ROM contents and additional contents, the above-mentioned planning process to formatting process are carried out. Then, AVClips, Clip information and PlayList information making up one piece of volume data are obtained. Ones which will be provided by the BD-ROM are removed from the obtained AVClips, Clip information and PlayList information, and the remaining information is assembled into one file as additional contents by an archiver program or the like. When such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatuses upon request.

Yahata not only does not teach the particular order of steps (a), (b), and (c), but it does not teach them as distinct actions at all; rather, it teaches merely that any combination of information may be provided at a given time. Nothing in Yahata teaches or suggests that, for instance, the PlayList information might be requested completely separate from the Clip information, or that it might be advantageous to do so, much less that said information might be requested in a particular order. To leap from Yahata to the claimed features is similar to arguing that a disclosure of an unorganized pile of car parts makes obvious a functioning car, because someone could choose to arrange them in such a configuration.

Examiner's argument effectively reads out the explicit limitations of claim 1 that step (b) be a distinct action occurring after the distinct action of step (a), and that step (c) be a distinct action occurring after step (b). These limitations are neither taught nor suggested by Yahata, by itself or in combination with Takashima and Chen.

Furthermore, claim 1 has been amended to recite the following features:

(b) after step (a), transmitting variable information associated with the streaming data to the playback apparatus according to a transmission request for the variable information received from the playback apparatus; and

... wherein the transmission request for the variable information is transmitted from the playback apparatus after the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information. (emphasis added)

None of Yahata, Takashima, and Chen teaches such features of claim 1. Hence, assuming arguendo the three cited references can be combined and a reasonable expectation of success exists, the combined references still do not disclose such features of claim 1.
Accordingly, it is respectfully submitted that claim 1 is allowable over Yahata, Takashima, and Chen, whether take alone or in combination.

Therefore, Applicants respectfully request withdrawal of this rejection.

Claims 3-5 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Yahata and Takashima, and further in view of Chen.

Without admission as to the correctness of Examiner's other arguments, Applicants note that claims 4 and 5 depend upon claim 1 and are therefore patentable over the cited references for at least the same reasons. Claim 3 has been cancelled without prejudice or disclaimer, thereby rendering the rejection thereof moot.

Therefore, Applicants respectfully request withdrawal of this rejection.


Without admission as to the correctness of Examiner's other arguments, Applicants note that claim 6 depends upon claim 1, and that Berger does not address the failure of Yahata, Takashima, and Chen to teach or suggest all the limitations of claim 1. Claim 6 is therefore patentable over the cited references for at least the same reasons as set forth regarding claim 1. Therefore, Applicants respectfully request withdrawal of this rejection.

Claim 8 is rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Yahata in view of Takashima, and further in view of Chen.

Claim 8 recites, inter alia:

A method for providing a channel service ... comprising steps of:
(a) receiving fixed information ...
(b) after step (a), ...
(c) after step (b), receiving variable information ...

Examiner repeats the same argument applied to claim 1 to argue Yahata teaches or
suggests that reception of the fixed information is a distinct action that occurs before reception of the variable information. Without admission as to the correctness of Examiner's other arguments, Applicants respond to this argument in the same manner as with claim 1 above, *mutatis mutandis*.

The limitation of claim 8 that step (c) be a distinct action occurring after the distinct action of step (b) (and, by extension, step (a)) is neither taught nor suggested by Yahata, by itself or in combination with Takashima and Chen.

Furthermore, claim 8 has been amended to recite the following features:

(a) receiving fixed information associated with streaming data of the channel service *from a channel service providing server* according to a request for the channel service included in a user input;

(b) after step (a), configuring a virtual package for a playback of the streaming data based on the fixed information;

(c) after step (b), transmitting a request for variable information associated with the streaming data *to the channel service providing server*; and

(d) receiving the variable information from the channel service providing server according to the request for variable information; (emphasis added)

None of Yahata, Takashima, and Chen teaches such features of claim 8. Hence, assuming *arguendo* the three cited references can be combined and a reasonable expectation of success exists, the combined references still do not disclose such features of claim 8. Accordingly, it is respectfully submitted that claim 8 is allowable over Yahata, Takashima, and Chen, whether take alone or in combination.

Therefore, Applicants respectfully request withdrawal of this rejection.

Claims 10-15 and 17 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Yahata in view of Takashima, and further in view of Chen.

Without admission as to the correctness of Examiner's other arguments, Applicants note that claims 12-15 and 17 depend from claim 8 and are therefore patentable over the cited references for at least the same reasons. Claims 10 and 11 have been cancelled without prejudice or disclaimer, thereby rendering the rejection thereof moot.

Therefore, Applicants respectfully request withdrawal of this rejection.

Without admission as to the correctness of Examiner’s other arguments, Applicants note that claim 16 depends upon claim 8, and that Berger does not address the failure of Yahata, Takashima, and Chen to teach or suggest all the limitations of claim 8. Claim 16 is therefore patentable over the cited references for at least the same reasons as set forth regarding claim 8. Therefore, Applicants respectfully request withdrawal of this rejection.

Claim 21 is rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Yahata in view of Chen.

Claim 21 recites, inter alia:

(a) transmitting fixed information ...;
(b) after step (a), ...;
(c) after step (b), ...;
(d) after step (c), transmitting the variable information ...;
(e) after step (d), ...; and
(f) after step (e), transmitting the streaming data including the one or more clips to the playback apparatus ...

Examiner repeats the same argument applied to claim 1 to argue Yahata teaches or suggests that transmission of the fixed information is a distinct action that occurs before transmission of the variable information. Without admission as to the correctness of Examiner’s other arguments, Applicants respond to this argument in the same manner as with claim 1 above, mutatis mutandis.

The limitation of claim 21 that step (d) be a distinct action occurring after step (c) (and, by extension, step (a)), or that step (f) be a distinct action occurring after step (e) (and, by extension, step (d)) is neither taught nor suggested by Yahata, by itself or in combination with Chen.

Furthermore, claim 21 has been amended to recite the following features:
(d) after step (c), transmitting the variable information to the playback apparatus according to a transmission request for the variable information received from the playback apparatus;

... 

(f) after step (e), transmitting the streaming data including the one or more clips to the playback apparatus, wherein the transmission request for the variable information is transmitted from the playback apparatus after the playback apparatus configures a virtual package for a playback of the streaming data based on the fixed information. (emphasis added)

Neither Yahata nor Chen teaches such features of claim 21. Hence, assuming argüendo the three cited references can be combined and a reasonable expectation of success exists, the combined references still do not disclose such features of claim 21. Accordingly, it is respectfully submitted that claim 21 is allowable over Yahata and Chen, whether take alone or in combination.

Therefore, Applicants respectfully request withdrawal of this rejection.

Claims 26 and 28 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Yahata in view of Chen.

Without admission as to the correctness of Examiner’s other arguments, Applicants note that claims 26 and 28 depend upon claim 21 and are therefore patentable over the cited references for at least the same reasons.

Therefore, Applicants respectfully request withdrawal of this rejection.

Claims 22 and 23 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Yahata and Chen in further view of Takashima.

Without admission as to the correctness of Examiner’s other arguments, Applicants note that claims 22 and 23 depend upon claim 21, and that Takashima does not address the failure of Yahata and Chen to teach or suggest all the limitations of claim 21. Claims 22 and 23 are therefore patentable over the cited references for at least the same reasons as set forth regarding claim 21.

Therefore, Applicants respectfully request withdrawal of this rejection.
Claim 24 is rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Yahata and Chen and further in view of Seo et al. (U.S. Patent Application Publication No. 2006/0153022; hereinafter Seo).

Without admission as to the correctness of Examiner’s other arguments, Applicants note that claim 24 depends upon claim 21 and that Seo does not address the failure of Yahata and Chen to teach or suggest all the limitations of claim 21. Claim 24 is therefore patentable over the cited references for at least the same reasons as set forth regarding claim 21.

Therefore, Applicants respectfully request withdrawal of this rejection.

Claim 25 is rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Yahata in view of Chen and further in view of Svanbro et al. (U.S. Patent Application Publication No. 2005/0125533; hereinafter Svanbro).

Without admission as to the correctness of Examiner’s other arguments, Applicants note that claim 25 depends upon claim 21 and that Svanbro does not address the failure of Yahata and Chen to teach or suggest all the limitations of claim 21. Claims 25 is therefore patentable over the cited references for at least the same reasons as set forth regarding claim 21.

Therefore, Applicants respectfully request withdrawal of this rejection.

Claim 27 is rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Yahata in view of Chen and further in view of Berger.

Without admission as to the correctness of Examiner’s other arguments, Applicants note that claim 27 depends upon claim 21 and that Berger does not address the failure of Yahata and Chen to teach or suggest all the limitations of claim 21. Claim 27 is therefore patentable over the cited references for at least the same reasons as set forth regarding claim 21.

Therefore, Applicants respectfully request withdrawal of this rejection.

Claim 19 is rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Takashima in view of Yahata and in further view of Chen.
Without admission as to the correctness of Examiner’s other arguments, including the correctness of the combination of Takashima, Yahata, and Chen, the rejection is incorrect for at least the following reason.

Claim 19 recites, *inter alia*:

A method for providing a channel service, the method comprising steps of...

by the channel service providing server, transmitting BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information for the selected channel service to the playback apparatus...

Examiner argues that Takashima teaches “transmitting BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information for the selected channel service to the playback apparatus”.

In the Amendment filed January 9, 2013, Applicants argued on page 13:

[Takashima] fails to disclose the transmission of all three information, i.e., BUMF, SF and playlist, from a server to a playback apparatus. Thus, it is clear that Takashima does not teach “by the channel service providing server, transmitting BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information for the selected channel service to the playback apparatus,” as recited in claim 19 (emphasis added).

In the present Office Action, Examiner responds on page 24:

The Examiner believes that BUMF, SF and playlist are transmitted from a server to a playback apparatus, since the BUMF includes a playlist as clearly shown in figures 11 and 16 which describes (a) BUMF before updating and (b) BUMF after updating; wherein fig. 16 describes generating/updating by information processing device (i.e. player device).

However, Examiner also argues that the information processing device of Takashima is analogous to a player apparatus, on page 21 of the present Office Action, and that the server of Takashima is analogous to a channel service providing server, on page 23 of the present Office Action.

Without admission to the correctness of Examiner’s interpretation, Applicants note that it actually supports Applicants’ argument, not Examiner’s. Examiner states correctly that Takashima teaches a BUMF is generated and updated on the information processing device. As previously noted, the Examiner also argues that the information processing device is
analogous to the playback apparatus. However, the limitation in question requires that the BUMF be transmitted by the channel service providing server, and to the playback apparatus. In contrast, Takashima repeatedly states that the BUMF is generated and updated on the information processing device (according to the Examiner, the playback apparatus) (see *inter alia* FIG. 11 S108, and ¶¶ 0113, 0123, and 0178), and transmitted to the server (see *inter alia* FIG. 11 S109, and ¶¶ 0196, 0218, and 0239).

It is further noted that the Examiner appears to argue that the BUSF of Takashima is analogous to the SF information. Without admission as to the correctness of this interpretation, Applicants note that the BUSF is generated by the server and sent to the information processing device in response to receipt of the BUMF (see FIG. 11 S110 and S111). This, therefore, further teaches against the limitation at issue, as the BUMF can never come from the same source as the BUSF.

In other words, Takashima not only fails to teach or suggest the limitation of transmitting the BUMF from the server to the playback apparatus, it teaches against it. It further teaches against transmitting the BUMF and SF information from the same source to the same destination, regardless of whether the source is analogous to the server, or the destination to the playback apparatus. Neither Yahata nor Chen overcome this gross deficiency of Takashima.

Furthermore, claim 19 has been amended to recite the following features:

*by the playback apparatus, transmitting a request for a clip information to the channel service providing server after performing the package update;*

*by the playback apparatus, receiving a first clip and first clip information about the first clip from the channel service providing server according to the request for a clip information and then playing the first clip;* ... (emphasis added)

None of Takashima, Yahata, and Chen teaches such features of claim 19. Hence, assuming *arguendo* the three cited references can be combined and a reasonable expectation of success exists, the combined references still do not disclose such features of claim 19. Accordingly, it is respectfully submitted that claim 19 is allowable over Takashima, Yahata, and Chen, whether take alone or in combination.

Therefore, Applicants respectfully request withdrawal of this rejection.
Claim 20 is rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Yahata in view of Takashima and further in view of Chen.

Without admission as to the correctness of Examiner’s other arguments, Applicants note that claim 20 depends upon claim 19 and is therefore patentable over the cited references for at least the same reasons.

Therefore, Applicants respectfully request withdrawal of this rejection.

Claim 29 is rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Takashima in view of Yahata and in further view of Chen.

Claim 29 recites, *inter alia*:

A method of providing a channel service by a playback apparatus supporting a BD-J specification, the method comprising steps of...

receiving fixed information on format of streaming data of a selected channel service from the channel service providing server, the fixed information including BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information...

Examiner repeats the same argument applied to claim 19 to argue Takashima teaches or suggests that BUMF information, SF information, and playlist information are all received by the playback apparatus. Without admission as to the correctness of Examiner’s other arguments, Applicants respond to this argument in the same manner as with claim 19 above, *mutatis mutandis*.

The limitations of claim 29 that the BUMF be received, not generated, by the playback apparatus, and that the SF information be received by the same destination as the BUMF, is neither taught nor suggested by Takashima, by itself or in combination with Yahata and Chen. Indeed, Takashima teaches against these limitations.

Furthermore, claim 29 has been amended to recite the following features:

configuring a *virtual package* apparatus to play the streaming data based on the fixed information;

transmitting a second request for a variable information on each of one or more clips generated by the channel service providing server to the channel service providing server after configuring the *virtual package*; (emphasis added)
None of Takashima, Yahata, and Chen teaches such features of claim 29. Hence, assuming arguendo the three cited references can be combined and a reasonable expectation of success exists, the combined references still do not disclose such features of claim 29. Accordingly, it is respectfully submitted that claim 29 is allowable over Takashima, Yahata, and Chen, whether take alone or in combination.

Therefore, Applicants respectfully request withdrawal of this rejection.

Claim 30 is rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Takashima, Yahata, and Chen, and further in view of Seo.

Without admission as to the correctness of Examiner's other arguments, Applicants note that claim 30 depends upon claim 29 and that Seo does not address the failure of Takashima, Yahata, and Chen to teach or suggest all the limitations of claim 21. Claim 30 is therefore patentable over the cited references for at least the same reasons as set forth regarding claim 29.

Therefore, Applicants respectfully request withdrawal of this rejection.
CONCLUSION:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

STEIN IP, LLC

Date: September 6, 2013

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### Electronic Acknowledgement Receipt

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**Title of Invention:** Method for providing channel service

| **First Named Inventor/Applicant Name:** | Wonjang Baek |
| **Customer Number:** | 49455 |
| **Filer:** | Sungyeop Chung/Sabrina Maya |
| **Filer Authorized By:** | Sungyeop Chung |
| **Attorney Docket Number:** | 0366.1013 |
| **Receipt Date:** | 06-SEP-2013 |
| **Filing Date:** | 12-JUN-2009 |
| **Time Stamp:** | 13:24:47 |
| **Application Type:** | Utility under 35 USC 111(a) |

**Payment information:**

Submitted with Payment: no

**File Listing:**

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**Warnings:**

**Information:**

| Total Files Size (in bytes):                          | 2237524 |

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.
REPLY/AMENDMENT
FEE TRANSMITTAL

ATTORNEY DOCKET NO. 0366.1013
APPLICATION NUMBER 12/457,508
FILING DATE June 12, 2009
FIRST NAMED INVENTOR Wonjang BAEK
GROUP ART UNIT 2484

AMOUNT ENCLOSED $0.00
EXAMINER NAME Jose M. MESA

FEE CALCULATION (fees effective 3/19/2013)

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Since an Official Action set an original due date of September 6, 2013, petition is hereby made for an extension to cover the date this reply is filed, for which the requisite fee is enclosed: (1 month ($200)); (2 months ($600)); (3 months ($1,400)); (4 months ($2,200)); (5 months ($3,000));

Notice of Appeal is enclosed (37 CFR 41.20(b)(1): $800.00) $0.00
Information Disclosure Statement is enclosed and fee is required (37 CFR 1.17(p): $180.00) $0.00

Total of above calculations $0.00
Reduction by 50% for filing by small entity (37 CFR 1.27) - $
Reduction by 75% for filing by micro entity (37 CFR 1.29) - $
Total of above calculations $0.00
Statutory Disclaimer is enclosed (37 CFR 1.20(d): $160.00) $0.00

TOTAL FEES DUE $0.00

☐ A previous micro entity status is no longer appropriate and is hereby cancelled under 37 CFR 1.29(i).

METHOD OF PAYMENT

☐ Check enclosed as payment. ☐ Credit Card Payment Form, Form PTO-2038 (attached).
☐ Charge "TOTAL FEES DUE" to the Deposit Account No. below.
☐ Payment authorized and made via EFS-Web.
☒ No payment is enclosed and no charges to the Deposit Account are authorized at this time (unless specifically required to obtain a filing date).

GENERAL AUTHORIZATION

☒ If the above-noted "AMOUNT ENCLOSED" is not correct, the Commissioner is hereby authorized to credit any overpayment or charge any additional fees necessary to:

Deposit Account No. 503333
Deposit Account Name STEIN IP, LLC

The Commissioner is also authorized to credit any overpayments or charge any additional fees required under 37 CFR 1.16 (filing fees) or 37 CFR 1.17 (processing fees) during the prosecution of this application, including any related application(s) claiming benefit hereof pursuant to 35 U.S.C. § 120 (e.g., continuations/divisionals/CIPs under 37 CFR 1.53(b) and/or continuations/divisionals/CPAs under 37 CFR 1.53(d)) to maintain pendency hereof or of any such related application.

SUBMITTED BY: STEIN IP, LLC

Typed Name Sungyeop Chung Reg. No. 64,130
Signature /schung/ Date September 6, 2013
**APPLICATION AS FILED – PART I**

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**APPLICATION AS AMENDED – PART II**

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**TOAL ADD’L FEE**

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*** If the "Highest Number Previously Paid For" in this space is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

**LIE /FREDERICK BRISCOE/
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49455 7590 06/06/2013

STEIN IP, LLC
1400 EYE STREET, NW
SUITE 300
WASHINGTON, DC 20005

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

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

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

docketing@steinip.com
Office Action Summary

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication. Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (37 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) [☑] Responsive to communication(s) filed on 12 March 2013.
   - [☐] A declaration(s)/affidavit(s) under 37 CFR 1.130(b) was/were filed on ______.
2a) [☐] This action is FINAL.
    2b) [☒] This action is non-final.
3) [☐] An election was made by the applicant in response to a restriction requirement set forth during the interview on ______; the restriction requirement and election have been incorporated into this action.
4) [☐] Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5) [☑] Claim(s) 1,3,6,8,10-17 and 19-30 is/are pending in the application.
   5a) Of the above claim(s) ______ is/are withdrawn from consideration.
6) [☐] Claim(s) ______ is/are allowed.
7) [☒] Claim(s) 1,3,6,8,10-17 and 19-30 is/are rejected.
8) [☐] Claim(s) ______ is/are objected to.
9) [☐] Claim(s) ______ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, 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.

Application Papers

10) [☐] The specification is objected to by the Examiner.
11) [☒] The drawing(s) filed on ______ is/are: a) [☒] accepted or b) [☐] objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

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.

Interim copies:

a) [☐] All  b) [☐] Some  c) [☐] None of the: Interim copies of the priority documents have been received.

Attachment(s)

1) [☒] Notice of References Cited (PTO-892)
2) [☐] Information Disclosure Statement(s) (PTO-SB/08)
   Paper No(s)/Mail Date ______.
3) [☐] Interview Summary (PTO-413)
   Paper No(s)/Mail Date ______.
4) [☐] Other: ______.
DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/12/2013 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 20, 24 and 30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. For instance, Claim 20 recites “when the BUMF information is configured in a manner that the first clip through an n-th clip are sequentially received, by the service providing server, after generating the n-th clip, configuring subsequent streaming data into another first clip through n-th clip, wherein the n is a natural number equal to or greater than two”
Claim 24 recites “wherein the streaming data include a first clip to n-th clip, the n-th clip being downloaded while a (n-1)-th clip is played, the n-th clip being played after the (n-1)-th clip is completely played, wherein the n is a natural number equal to or greater than two”

And claim 30 recites “wherein the BUMF information is configured in a manner that a first clip through an n-th clip are sequentially received and played, the method further comprising: sequentially receiving first clip information through n-th clip information generated by the channel service providing server; and sequentially receiving and playing a clip corresponding to the clip information that has finished downloading, wherein the n is a natural number equal to or greater than two”

NOTE: the newly added underlined part of the claim limitation does not have support in the specification; for instance, the terms "wherein the n is a natural number equal to or greater than two." Therefore, the above claim is rejected under 35 U.S.C. 112, first paragraph.

Response to Arguments

Applicants’ arguments filed on 03/12/2013 with respect to claims 1, 3-6, 8, 10-17 and 19-20 have been fully considered but they are not persuasive. New claims 21-30 will be addressed in this Office Action.

In re page 9, applicants state that “To establish an obviousness rejection under 35 U.S.C. § 103(a), four factual inquiries must be examined. The four factual inquiries
include (a) determining the scope and contents of the prior art; (b) ascertaining the
differences between the prior art and the claims in issue; (c) resolving the level of
ordinary skill in the pertinent art; and (d) evaluating evidence of secondary
consideration. Graham v. John Deem, 383 U.S. 1, 17-18 (1966). In view of these four
factors, the analysis supporting a rejection under 35 U.S.C. 103(a) should be made
explicit, and should "identify a reason that would have prompted a person of ordinary
skill in the relevant field to combine the [prior art] elements" in the manner claimed. KSR
Int'l. Co. v. Telefex, Inc., 550 U.S. 398 (2007). Furthermore, even if the prior art may be
combined, there must be a reasonable expectation of success, and the reference or
references, when combined, must disclose or suggest all of the claim limitations. See in
re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)."

In response, an obviousness rejection has been established under 35 U.S.C. §
103(a). The combined teaching of the primary reference and the secondary reference
do not destroy the primary reference, in fact, it enhances the operation of the primary
reference. As a result, the combination of both references won't change the principle of
operation of the primary reference being modified, and then the teachings of the
references are sufficient to render the claims prima facie obvious.

**Below are the teachings of the references and motivation of independent
claim 1 according to KSR.**

But fails to explicitly teach wherein the fixed information includes at least one of
BUMF information and SF information associated with the streaming data. However, the
reference of Takashima explicitly teaches wherein the fixed information includes at least one of BUMF information and SF information associated with the streaming data (see figs. 4, 6, 7, 14-16 ¶s 74-75, 80, 97, 99-102, 106, 112-114, 117-124, 129-131, 135, 139-140, 145, 156, 158, 161, 163, 169-170, 178-186, 189, 194-199, 206-211, 216-221, 227, 230, 233-235, 238-239, 240-242 for BUMF information and SF information)

Therefore, taking the combined teachings of Yahata and Takashima as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (SF information) into the system of Yahata at the time the invention was made as taught by Takashima.

One will be motivated to incorporate the feature SF information into the system of Yahata as taught by Takashima for the benefit of implementing a file tampering validation data (e.g., Binding Unit Signature File (BUSF), which is a signature setting file wherein a server private key for providing the substantial data is applied to the data that structures the BUMF in order to enable the performance of strict usage control of the subsequent data (see ¶ 12)

Furthermore, fails to explicitly teach channel service providing server. However, the reference of Chen explicitly teaches channel service providing server (see fig. 3 ¶s 40-41 (channel service providing server (i.e. Process unit 102)) “Process unit 102 is used for responding to service information inquiries, receiving requests from subscriber terminal 200, updating the authorization information of the subscriber terminal, and sending a new channel list to terminal service management unit 201
in subscriber terminal 200”), (see fig. 4 ¶s 45, 51-53 (channel service providing server (i.e. IPTV application apparatus 100)) “s402: The IPTV application apparatus receives a request from a subscriber terminal. s404: The IPTV application apparatus sends a new channel list to the subscriber terminal”)

Therefore, taking the combined teachings of Yahata and Chen as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (channel) into the system of Yahata at the time the invention was made as taught by Chen.

One will be motivated to incorporate the feature channel into the system of Yahata as taught by Chen for the benefit of generating a channel list for the subscriber terminal according to the authorization information in order to improve efficiency (see ¶ 11)

Below are the teachings of the references and motivation of independent claim 8 according to KSR.

But fails to explicitly teach wherein the fixed information includes at least one of BUMF information and SF information. However, the reference of Takashima explicitly teaches wherein the fixed information includes at least one of BUMF information and SF information (see figs. 6, 7, 14-16 ¶s 74-75, 106, 112-114, 118-124, 129-131, 139, 145, 163, 169-170, 178-186, 189, 194-199, 206-211, 216-221, 227, 230, 233-235, 238-239, 240-242 for BUMF information and SF information)

Therefore, taking the combined teachings of Yahata and Takashima as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature
(SF information) into the system of Yahata at the time the invention was made as taught by Takashima.

One will be motivated to incorporate the feature SF information into the system of Yahata as taught by Takashima for the benefit of implementing a file tampering validation data (e.g., Binding Unit Signature File (BUSF), which is a signature setting file wherein a server private key for providing the substantial data is applied to the data that structures the BUMF in order to enable the performance of strict usage control of the subsequent data (see ¶ 12)

Furthermore, fails to explicitly teach channel service providing server. However, the reference of Chen explicitly teaches channel service providing server (see fig. 3 ¶s 40-41 (channel service providing server (i.e. Process unit 102)) “Process unit 102 is used for responding to service information inquiries, receiving requests from subscriber terminal 200, updating the authorization information of the subscriber terminal, and sending a new channel list to terminal service management unit 201 in subscriber terminal 200”), (see fig. 4 ¶s 45, 51-53 (channel service providing server (i.e. IPTV application apparatus 100)) “s402: The IPTV application apparatus receives a request from a subscriber terminal. s404: The IPTV application apparatus sends a new channel list to the subscriber terminal”)

Therefore, taking the combined teachings of Yahata and Chen as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature
(channel) into the system of Yahata at the time the invention was made as taught by Chen.

One will be motivated to incorporate the feature channel into the system of Yahata as taught by Chen for the benefit of generating a channel list for the subscriber terminal according to the authorization information in order to improve efficiency (see ¶ 11)

Below are the teachings of the references and motivation of independent claim 19 according to KSR.

But fails to explicitly teach and then playing the first clip, and then playing the second clip. However, the reference of Yahata explicitly teaches and then playing the first clip, and then playing the second clip (see ¶ 140 “an AVClip that is stored in the local storage and played back with a MainClip is called the "SubClip"”), (see fig. 12 ¶ 163 “‘Clip.Information file_name’ that indicates the file name of the playback section information of the AVClip to which the IN point and the OUT point of the playback section belong”), (see figs. 16, 18-19 ¶s 188, 201, 203, 209, 222, 455, 463 “Whereas the Mainpath is a playback path defined for the MainClip which is a main video, the Subpath is a playback path defined for the SubClip which synchronizes with the MainPath”)

Therefore, taking the combined teachings of Takashima and Yahata as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (playback) into the system of Takashima at the time the invention was made as taught by Yahata.
One will be motivated to incorporate the feature playback into the system of Takashima as taught by Yahata for the benefit of implementing an Out-of-MUX framework which is a technology that simultaneously reads a digital stream recorded on a read-only recording medium, such as a BD-ROM, and a digital stream recorded in a local storage, which is a rewritable recording medium, supplies them to a decoder, and then plays back them synchronously in order to improve efficiency (see ¶ 2)

Furthermore, fails to explicitly teach by a playback apparatus, transmitting a request for the channel service selected in a channel list to a channel service providing server. However, the reference of Chen explicitly teaches by a playback apparatus, transmitting a request for the channel service selected in a channel list to a channel service providing server (see fig. 3 ¶¶s 40-41 (channel service providing server (i.e. Process unit 102)) “Process unit 102 is used for responding to service information inquiries, receiving requests from subscriber terminal 200, updating the authorization information of the subscriber terminal, and sending a new channel list to terminal service management unit 201 in subscriber terminal 200”), (see fig. 4 ¶¶s 45, 51-53 (channel service providing server (i.e. IPTV application apparatus 100)) “s402: The IPTV application apparatus receives a request from a subscriber terminal. s404: The IPTV application apparatus sends a new channel list to the subscriber terminal”)

Therefore, taking the combined teachings of Takashima and Chen as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature
(request) into the system of Takashima at the time the invention was made as taught by Chen.

One will be motivated to incorporate the feature request into the system of Takashima as taught by Chen for the benefit of implementing an IPTV live broadcast service for receiving a request from a subscriber terminal in order to improve efficiency (see ¶s 8-9)

Below are the teachings of the references and motivation of independent claim 21 according to KSR.

But fails to explicitly teach channel service providing server. However, the reference of Chen explicitly teaches channel service providing server (see fig. 3 ¶s 40-41 (channel service providing server (i.e. Process unit 102)) “Process unit 102 is used for responding to service information inquiries, receiving requests from subscriber terminal 200, updating the authorization information of the subscriber terminal, and sending a new channel list to terminal service management unit 201 in subscriber terminal 200”), (see fig. 4 ¶s 45, 51-53 (channel service providing server (i.e. IPTV application apparatus 100)) “s402: The IPTV application apparatus receives a request from a subscriber terminal. s404: The IPTV application apparatus sends a new channel list to the subscriber terminal”)

Therefore, taking the combined teachings of Yahata and Chen as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (channel) into the system of Yahata at the time the invention was made as taught by Chen.
One will be motivated to incorporate the feature channel into the system of Yahata as taught by Chen for the benefit of generating a channel list for the subscriber terminal according to the authorization information in order to improve efficiency (see ¶ 11)

Below are the teachings of the references and motivation of independent claim 29 according to KSR.

But fails to explicitly teach (d) configuring the playback apparatus to play the streaming data based on the fixed information. However, the reference of Yahata explicitly teaches (d) configuring the playback apparatus to play the streaming data based on the fixed information (see ¶ 140 “an AVClip that is stored in the local storage and played back with a MainClip is called the "SubClip"”), (see figs. 12-13 ¶s 163-165 “"Clip_Information file_name" that indicates the file name of the playback section information of the AVClip to which the IN point and the OUT point of the playback section belong”), (see figs. 16, 18-19 ¶s 188, 201, 203, 209, 222, 455, 463 “Whereas the Mainpath is a playback path defined for the MainClip which is a main video, the Subpath is a playback path defined for the SubClip which synchronizes with the MainPath” in which the PlayList information is the fixed information which includes MainPath information and SubPath information)

Therefore, taking the combined teachings of Takashima and Yahata as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (playback) into the system of Takashima at the time the invention was made as taught by Yahata.
One will be motivated to incorporate the feature playback into the system of Takashima as taught by Yahata for the benefit of implementing an Out-of-MUX framework which is a technology that simultaneously reads a digital stream recorded on a read-only recording medium, such as a BD-ROM, and a digital stream recorded in a local storage, which is a rewritable recording medium, supplies them to a decoder, and then plays back them synchronously in order to improve efficiency (see ¶2).

Furthermore, fails to explicitly teach channel service providing server. However, the reference of Chen explicitly teaches channel service providing server (see fig. 3 ¶s 40-41 (channel service providing server (i.e. Process unit 102)) “Process unit 102 is used for responding to service information inquiries, receiving requests from subscriber terminal 200, updating the authorization information of the subscriber terminal, and sending a new channel list to terminal service management unit 201 in subscriber terminal 200”), (see fig. 4 ¶s 45, 51-53 (channel service providing server (i.e. IPTV application apparatus 100)) “s402: The IPTV application apparatus receives a request from a subscriber terminal. s404: The IPTV application apparatus sends a new channel list to the subscriber terminal”)

Therefore, taking the combined teachings of Takashima and Chen as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (channel) into the system of Takashima at the time the invention was made as taught by Chen.
One will be motivated to incorporate the feature channel into the system of Takashima as taught by Chen for the benefit of generating a channel list for the subscriber terminal according to the authorization information in order to improve efficiency (see ¶ 11).

In re pages 9-10, applicants state that “In view of this framework, Applicants respectfully submit that neither Yahata nor Takashima teaches the following features of claim 1, as amended, inter alia: A method for providing a channel service by a channel service providing server, the method comprising steps of: (a) transmitting fixed information ... (b) after step (a), transmitting variable information associated with the streaming data to the playback apparatus...(emphasis added)

In response examiner respectfully disagrees. The reference of Yahata discloses in figs. 1, 33 paragraphs 93-94, 429 that “The playback apparatus 300 is also able to download content from a server 700 of a movie distributor via a network”

NOTE: in which the network as illustrated in figure 1 is used by the server to transmit such information to the playback apparatus, and the server is used as the channel service provider for providing content to the playback apparatus.

And in figs. 14 & 16 paragraphs 185-186 that “a file (00002.mpls) to which extension “mpls” is attached is information that defines a group made by binding up two types of playback paths called MainPath and Subpath as playlist (PL)

And in fig. 22 paragraph 239 that “the temporal transition of the total transmission amount is as shown by the solid curve; the total data amount is the
sum amount of TS packets belonging to streams that have been allowed in the STN table”

And in paragraph 426 that “PlayList information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request”

**NOTE:** in which PlayList information is fixed information.

And also in paragraph 426 that “AVClips, Clip information making up one pieces of volume data are obtained. AVClips, Clip information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request”

**NOTE:** in which the AVClips, Clip information are variable information associated with the streaming data.

From the above passages, Yahata indeed discloses the claimed limitations “(a) transmitting fixed information (see figs. 1, 14, 16, 22 ¶s 93-94, 185-186, 239, 426, 429 for transmitting fixed information) ... (b) after step (a), transmitting variable information associated with the streaming data to the playback apparatus” (see ¶ 426 for transmitting variable information associated with the streaming data to the playback apparatus)

In re page 10, applicants state that “As to steps (a) and (b) above, the Office Action concludes that Yahata discloses such features of claim 1 (see page 8, last paragraph to page 9, first paragraph; and page 4, last paragraph to page 5, first
paragraph). Particularly, paragraph [0426] of Yahata describes the following:

[0426] When a motion picture is composed of BD-ROM contents and additional contents, the above-mentioned planning process to formatting process are carried out. Then, AVClips, Clip information and PlayList information making up one piece of volume data are obtained. Ones which will be provided by the BD-ROM are removed from the obtained AVClips, Clip information and PlayList information, and the remaining information is assembled into one file as additional contents by an archiver program or the like. When such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatuses upon request. (underline added) As can be appreciated based on this paragraph, Yahata describes obtaining "AVClips, Clip information and PlayList information making up one piece of volume data" and providing "additional contents," which basically includes all of the AVClips, Clip information and PlayList information except for ones that will be provided by the BD-ROM, to the www server as one single file. Hence, in Yahata, the AVClips and Clip information (alleged "variable information" (Office Action, page 9, lines 3-5)), and the PlayList information (alleged "fixed information" (Office Action, page 9, lines 10-13)) are simultaneously provided to the www server as one single file. No teaching or suggestion is found in Yahata that the AVClips and Clip information (alleged "variable information") are transmitted to the playback apparatus after the PlayList information (alleged "fixed information") is transmitted to the same apparatus. Thus, it is clear that Yahata fails to disclose or suggest at least "(a) transmitting fixed information associated with streaming data of the channel service to a
playback apparatus supporting a BD-J specification according to a request for the channel service received from the playback apparatus; (b) after step (a), transmitting variable information associated with the streaming data to the playback apparatus, "as recited in claim 1."

In response examiner respectfully disagrees. It should be understood that Yahata transmits fixed information (i.e. PlayList information) and variable information (i.e. AVClips and Clip information) to playback apparatuses as clearly described in paragraph 426, for example.

On the other hand, the Applicants stated above that “Hence, in Yahata, the AVClips and Clip information (alleged "variable information" (Office Action, page 9, lines 3-5)), and the PlayList information (alleged "fixed information" (Office Action, page 9, lines 10-13)) are simultaneously provided to the www server as one single file. No teaching or suggestion is found in Yahata that the AVClips and Clip information (alleged "variable information") are transmitted to the playback apparatus after the PlayList information (alleged "fixed information") is transmitted to the same apparatus.”

First, supposed that Yahata transmits fixed information (i.e. PlayList information) and variable information (i.e. AVClips and Clip information) to the server as one file as the Applicants stated above. Second, the transmitted fixed information and variable information are then stored in a server. Third, the stored fixed information and variable information are sent to playback apparatuses upon request.
Therefore, a user has a choice to request fixed information (i.e. PlayList information) and variable information (i.e. AVClips and Clip information) either as separated fixed information and variable information or as one file, since paragraph 426 does not state that such information is sent as one file to the playback apparatuses upon request. Instead, paragraph 426 of Yahata states that such fixed information (i.e. PlayList information) and variable information (i.e. AVClips and Clip information) are sent to a server either as one file or as individual fixed information and variable information since it does not explicitly stated otherwise.

In re pages 10-11, applicants state that "The secondary reference, Takashima, was cited against the other features of claim 1, i.e., "wherein the fixed information includes at least one of BUMF information and SF information," but fails to disclose such features of claim 1 as discussed above with regard to Yahata. Thus, assuming arguendo Yahata and Takashima can be combined and a reasonable expectation of success exists, the combined references still do not teach at least "(a) transmitting fixed information associated with streaming data of the channel service to a playback apparatus supporting a BD-J specification according to a request for the channel service received from the playback apparatus; (b) after step (a), transmitting variable information associated with the streaming data to the playback apparatus," as recited in claim 1.

Since no combination of the cited prior art teaches such features as claimed, Applicants
respectfully submit that claim 1 is allowable over Yahata and Takashima, whether taken alone or in combination.

In response, as discussed above with respect to claim 1, the combination of Yahata and Takashima disclose all the above claimed limitations of claim 1.

In re page 11, applicants state that “Claims 3-6 depend directly or indirectly from claim 1, and are thus allowable for at least this reason.”

In response, as discussed above with respect to claim 1, the combination of Yahata and Takashima disclose all the above claimed limitations of claim 1.

In re page 11, applicants state that “Furthermore, independent claim 8, as amended, recites inter alia: (a) receiving fixed information associated with streaming data of the channel service according to a request for the channel service included in a user input; (b) after step (a), configuring the playback apparatus for a playback of the streaming data based on the fixed information; (c) after step (b), receiving variable information associated with the streaming data ... (emphasis added) As previously discussed above with regard to claim 1, Yahata fails to teach or suggest that the AVClips and Clip information (alleged “variable information”) are transmitted to the playback apparatus after the PlayList information (alleged “fixed information”) is transmitted to the same apparatus. Thus, for the reasons similar to those applied to
claim 1, it is clear that no combination of Yahata and Takashima discloses these features of claim 8 above, mutatis mutandis. Accordingly, Applicants respectfully submit that claim 8 is allowable over Yahata and Takashima, whether taken alone or in combination.”

In response, as discussed above with respect to claim 1, the combination of Yahata and Takashima disclose all the above claimed limitations of claims 1 and 8.

In re page 11, applicants state that “Claims 10-17 depend directly or indirectly from claim 8, and are thus allowable for at least this reason. In view of the foregoing, it is respectfully requested that the rejection of 1, 3-6, 8 and 10-17 under 35 U.S.C. §103(a) be withdrawn.”

In response, as discussed above with respect to claim 1, the combination of Yahata and Takashima disclose all the above claimed limitations of claims 1 and 8.

In re pages 11-13, applicants state that “Claim 19 recites inter alia: by the channel service providing server, transmitting BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information for the selected channel service to the playback apparatus. (emphasis added). It is unclear which element, either the information processing device or the server, disclosed in Takashima the Examiner believes corresponds to the "channel service providing server" as recited
in claim 19. In Takashima, the information processing device is described as "[a PC or reading device] that performs the process of reading an information recording medium (disc) (e.g., a DVD or Blu-ray DiscTM)" (see paragraph [0066]). Hence, the information processing device of Takashima must be analogous to the "playback apparatus" of an embodiment of the present application. On the other hand, in the Office Action, page 19, lines 8-12, for example, it is implied that the information processing device of Takashima teaches the "service providing server" as recited in claim 19. Applicants respectfully request the Examiner’s clarification. However, regardless of whether the information processing device or the server of Takashima is analogous to the "channel service providing server" as recited in claim 19, it is clear that neither element has the features as claimed. While Fig. 11 of Takashima illustrates the transmission of BUMF/BUSF (S108-S112), it fails to disclose the transmission of all three information, i.e., BUMF, SF and playlist, from a server to a playback apparatus. Thus, it is clear that Takashima does not teach "by the channel service providing server, transmitting BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information for the selected channel service to the playback apparatus," as recited in claim 19 (emphasis added). Furthermore, claim 19 further recites, inter alia: by the playback apparatus, performing a package update from a disk package to a virtual package, based on the BUMF information, the SF information and the playlist information .. (emphasis added) For the reasons similar to those discussed above with regard to the first features of claim 19, it is respectfully submitted that Takashima fails to disclose or suggest these claim features, mutatis mutandis. The secondary reference,
Yahata, was cited against the additional features of claim 19, but fails to cure the deficiencies of Takashima as noted above. Thus, assuming arguendo Takashima and Yahata can be combined and a reasonable expectation of success exists, the combined references still do not disclose all of the features recited in claim 19. Accordingly, Applicants respectfully submit that claim 19 is allowable over the cited prior art, whether taken alone or in combination."

In response examiner respectfully disagrees. Takashima discloses in figs. 2-3 paragraph 76 that “The information processing device 100 may be of a variety of information processing devices, such as a PC or a dedicated player device”

NOTE: it should be clear that a player device is a playback device, which is used to playback the playlist as shown in figure 3 for example. Therefore, the information processing device 100 (i.e. player device) of Takashima is clearly analogous to the "playback apparatus" of an embodiment of the present application.

And in figs. 1, 11 paragraph 148 that “The server references the information regarding the content that is possessed, received from the user information processing device, generates a list of content corresponding to the content that can be provided to the user, and then, in Step S103, sends this list to the user-side information processing device. An example of a content list that is sent from the server is illustrated in FIG. 12.”

And in figs. 1, 11 paragraph 150 that “In this way, owned content information is received by the server from the user information processing device through the
communication unit, and the owned content information that has been received is used in the data processing unit of the server to generate the content list illustrated in FIG. 12, which records information on content that can be provided to the user device, and this list is provided to the user device through the communication unit. Note that the content list that is generated by the server, as shown in FIG. 12, is a list of content wherein identification information for data files that correspond to the data that can be provided to the user device is associated with download content IDs, a list wherein the information is established in response to the recording media on the user side.”

And in figs. 1, 11 paragraph 151 that “Note that a special directory corresponding to the downloaded content ID of the content illustrated in FIG. 12 is established when the user-side information processing device 100 has actually downloaded the subsequential data. The information processing device 100 stores the subsequential data that has been downloaded, etc., in this directory that has been established. Note that, in this data recording process, there is no need for the filename to be identical to the downloaded content ID. As has already been explained in reference to FIG. 9 (a1) and (b1), the storage can use a filename set up using the studio name, or the like. The correspondence between the download content ID and the actual storage directory in the local storage unit 102 is recorded in the downloaded content list data that has already been explained in reference to FIG. 10.”
And in fig. 11 paragraph 152 that “The explanation will continue, returning to the sequence diagram of FIG. 11. In Step S103, the server references the information regarding the content that is possessed, received from the user information processing device, generates a list of content (for example, the list illustrated in FIG. 12) corresponding to the content that can be provided to the user, and then sends this list to the user-side information processing device.”

And in fig. 11 paragraphs 156-163 that “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequent data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like) and the download data processing information file (a file describing the state of processing of the subsequent data selected by the download data processing information file ID) are sent to the user-side information processing device.”

**NOTE:** the Applicants stated above that “It is unclear which element, either the information processing device or the server, disclosed in Takashima the Examiner believes corresponds to the “channel service providing server” as recited in claim 19.”

The Examiner believes that the communication unit (i.e. network) as illustrated in figure 1 is used by the servers to transmit the above mentioned information to a user device such as an information processing device 100 (i.e. player device); hence, the channel service providing server are such servers. It should be understood that the servers of
Takashima clearly provide service as described in the above figures and paragraphs. However, as the Examiner stated in the prior Office Action dated 12/20/2012 that the reference of Chen discloses the channel service providing server as it is described below.

And in fig. 11 paragraphs 178, 182-183 that “in Step S108, the user-side information processing device performs a process for generating or updating the filename conversion table (manifest file (BUMF)) that includes the filename conversion information for the subsequential data that has been obtained”)

And in fig. 19 paragraph 218 that “The server 131 performs the process for providing the subsequential data, and performs a process for receiving a filename conversion table (manifest file (BUMF)) that has been generated or updated in the information processing device 100, generating the file tampering validation data (BUSF), and sending the file tampering validation data (BUSF) to the information processing device 100”

**NOTE:** the Applicants stated above that “While Fig. 11 of Takashima illustrates the transmission of BUMF/BUSF (S108-S112), it fails to disclose the transmission of all three information, i.e., BUMF, SF and playlist, from a server to a playback apparatus.”

The Examiner believes that BUMF, SF and playlist are transmitted from a server to a playback apparatus, since the BUMF includes a playlist as clearly shown in figures 11 and 16 which describes (a) BUMF before updating and (b) BUMF after updating; wherein fig. 16 describes generating/updating by information processing device (i.e. player device). Therefore, Takashima anticipates the claim limitation.
And in figs. 7-8, 11, 16 paragraph 123 that “Processes are required to generate or update the manifest file (BUMF) and control data, and to generate or update the file tampering validation data (BUSF), each time this type of subsequential data is obtained. That is, the data processing unit 101 of the information processing device 100 shown in FIG. 1 performs a comparison process of the data stored in the local storage unit 102 with the storage data of the control file stored in the local storage unit 102, and performs a process of generating or updating the filename conversion table and the manifest file (BUMF) so as to reconcile between the information recorded in the control file and the data stored in the local storage unit 102.”

And in figs. 7-8, 11, 16 paragraph 124 that “A device that acquires subsequential data regularly must perform the process of creating or updating these files frequently, and thus there is the need to increase the efficiency of these processes. An example of a process for creating and updating the manifest file (BUMF), the control data, and the file tampering validation data (BUSF) as set forth in an example of embodiment according to the present invention will be described below.”

And in figs. 7-8, 11, 16 paragraph 125 that “First an example of a directory when subsequential data is written to the local storage unit 102 of the information processing device 100 on the user side will be explained in reference to FIG. 7. The example of the directory in the local storage unit 102 that is illustrated in FIG.
7 is an example of a directory that is partitioned by the studio (Org: Organization) unit that provided the subsequential data, and is further partitioned by the disc (=package) unit (Disc_id) provided by the studio.”

And in figs. 7-8, 11, 16 paragraph 129 that “Note that the "virtual package" is synonymous with the VFS (virtual file system) described above, and the last filename in the data that structures the post-conversion filename of the manifest file (BUMF) that is the filename conversion table that was described above in reference to FIG. 6 is the filename in the virtual package.”

And in fig. 11 paragraph 161 that “The user-side information processing device stores the files of the subsequential data itself, for example, the AVStream, the ClipInfo, the PlayList, and so forth, and then performs the process of generating or updating the download file local control information and the control data such as the downloaded content list”

And in fig. 15 paragraph 170 that “Next, in Step S206, unused filenames, not listed in the filename conversion table (BUMF (bumf.xml)), are allocated as the VFS filenames corresponding to each of the files (the clip information (ClipInfo) file, the clip AV stream (ClipAVStream) file, the play list (PlayList) file, etc.) that structure the subsequential data that is received.”

And in fig. 15 paragraphs 171-176 that “Next, in the Step S207, three types of information are referenced to generate or update the download file local control information (shown in FIG. 8):”
And in fig. 11 paragraphs 178, 181-185 that “in Step S108, the user-side information processing device performs a process for generating or updating the filename conversion table (manifest file (BUMF)) that includes the filename conversion information for the sub sequential data that has been obtained”)

**NOTE:** the Applicants stated above that “playback apparatus, performing a package update from a disk package to a virtual package, based on the BUMF information, the SF information and the playlist information.”

It should be clear from the above figures and paragraphs that playback apparatus (i.e. player device or information processing device 100), performing a package update from a disk package to a virtual package, based on the BUMF information, the SF information and the playlist information. Furthermore, the above figures and paragraphs clearly describe the BUMF information, the SF information and the playlist information that are included in the disc package being updated to a virtual package.

On the other hand, Chen discloses “channel service providing server” (see fig. 3 ¶¶s 40-41 (channel service providing server (i.e. Process unit 102)) “Process unit 102 is used for responding to service information inquiries, receiving requests from subscriber terminal 200, updating the authorization information of the subscriber terminal, and sending a new channel list to terminal service management unit 201 in subscriber terminal 200”), (see fig. 4 ¶¶s 45, 51-53 (channel service providing server (i.e. IPTV application apparatus 100)) “s402:
The IPTV application apparatus receives a request from a subscriber terminal.

s404: The IPTV application apparatus sends a new channel list to the subscriber terminal”)

In re page 13, applicants state that “Claim 20 depends from claim 19, and is thus allowable for at least this reason. In view of the foregoing, it is respectfully requested that the rejection of claims 19 and 20 under 35 U.S.C. §103(a) be withdrawn.”

In response, as discussed above with respect to claim 19, the combination of Yahata, Takashima and Chen disclose all the claimed limitations of claim 19.

Claim Rejections - 35 USC § 103

The following is a quotation of 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 of this title, 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 negated by the manner in which the invention was made.

1. Claims 1, 3-5, 8, 10-15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yahata et al. (US 2009/0097821 A1) (hereinafter Yahata), and further in view of Takashima et al. (US 2009/0271411 A1) (hereinafter Takashima), and further in view of Chen (US 2008/0244658 A1) (hereinafter Chen).

Re claim 1, Yahata discloses a method for providing a channel service by a channel service providing server, the method comprising steps of: (a) transmitting a
fixed information associated with a streaming data of the channel service to a playback apparatus supporting a BD-J specification according to a request for the channel service received from the playback apparatus (see fig. 22 ¶ 239 “the temporal transition of the total transmission amount is as shown by the solid curve; the total data amount is the sum amount of TS packets belonging to streams that have been allowed in the STN table”), (see figs. 1, 33 ¶s 93-94, 429 “The playback apparatus 300 is also able to download content from a server 700 of a movie distributor via a network” in which the network as illustrated in figure 1 is used by the server to transmit such information to the playback apparatus; hence, the channel service providing server are such servers. However, the reference of Chen discloses below the channel service providing server), (see ¶s 568 & 577 “the playback apparatus may be caused to perform a BD-J application”), (see figs. 14 & 16 ¶s 185-186 “a file (00002.mpls) to which extension "mpls" is attached is information that defines a group made by binding up two types of playback paths called MainPath and Subpath as playlist (PL)” which are fixed information), (see ¶ 426 “PlayList information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request” in which PlayList information is fixed information); (b) after step (a), transmitting a variable information associated with the streaming data to the playback apparatus (see ¶ 426 “AVClips, Clip information making up one pieces of volume data are obtained. AVClips, Clip information, when such additional contents are obtained after these processes, the additional
contents are provided to a www server and sent to playback apparatus upon request” in which these are variable information associated with the streaming data); and (c) after step (b), transmitting the streaming data to the playback apparatus (see figs. 23A-23B ¶ 240 “this indicates that the data amount supplied from the BD-ROM and the local storage is limited to the transmittable amount or less in any window”)

But fails to explicitly teach wherein the fixed information includes at least one of BUMF information and SF information associated with the streaming data. However, the reference of Takashima explicitly teaches wherein the fixed information includes at least one of BUMF information and SF information associated with the streaming data (see figs. 4, 6, 7, 14-16 ¶s 74-75, 80, 97, 99-102, 106, 112-114, 117-124, 129-131, 135, 139-140, 145, 156, 158, 161, 163, 169-170, 178-186, 189, 194-199, 206-211, 216-221, 227, 230, 233-235, 238-239, 240-242 for BUMF information and SF information)

Therefore, taking the combined teachings of Yahata and Takashima as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (SF information) into the system of Yahata at the time the invention was made as taught by Takashima.

One will be motivated to incorporate the feature SF information into the system of Yahata as taught by Takashima for the benefit of implementing a file tampering validation data (e.g., Binding Unit Signature File (BUSF), which is a signature setting file wherein a server private key for providing the substantial data is applied to the data that
structures the BUMF in order to enable the performance of strict usage control of the
subsequent data (see ¶ 12)

Furthermore, fails to explicitly teach channel service providing server. However,
the reference of Chen explicitly teaches channel service providing server (see fig. 3 ¶s
40-41 (channel service providing server (i.e. Process unit 102)) “Process unit 102
is used for responding to service information inquiries, receiving requests from
subscriber terminal 200, updating the authorization information of the subscriber
terminal, and sending a new channel list to terminal service management unit 201
in subscriber terminal 200”), (see fig. 4 ¶s 45, 51-53 (channel service providing
server (i.e. IPTV application apparatus 100)) “s402: The IPTV application
apparatus receives a request from a subscriber terminal. s404: The IPTV
application apparatus sends a new channel list to the subscriber terminal”)

Therefore, taking the combined teachings of Yahata and Chen as a whole, it
would have been obvious to one of ordinary skills in the art to incorporate this feature
(channel) into the system of Yahata at the time the invention was made as taught by
Chen.

One will be motivated to incorporate the feature channel into the system of
Yahata as taught by Chen for the benefit of generating a channel list for the subscriber
terminal according to the authorization information in order to improve efficiency (see ¶
11)
Re claim 3, the combination of Yahata, Takashima and Chen as discussed in claim 1 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the step (b) comprises transmitting the variable information to the playback apparatus according to a transmission request for the variable information received from the playback apparatus (see ¶ 426 “AVClips, Clip information making up one pieces of volume data are obtained; ones which will be provided by the BD-ROM are removed from the obtained AVClips, Clip information, and the remaining information is assembled into one file as additional contents by an archiver program” in which these are variable information obtained or received from the playback apparatus)

Re claim 4, the combination of Yahata, Takashima and Chen as discussed in claim 3 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the variable information includes a clip information corresponding to each of one or more clips included in the streaming data (see ¶ 426 “AVClips, Clip information making up one pieces of volume data are obtained”)

Re claim 5, the combination of Yahata, Takashima and Chen as discussed in claim 4 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the step (b) comprises transmitting the clip information to the playback apparatus, and wherein the step (c) comprises transmitting one of the one or more clips corresponding to the clip information to the playback apparatus according to the
transmission request (see ¶ 426 “AVClips, Clip information and PlayList information making up one pieces of volume data are obtained; ones which will be provided by the BD-ROM are removed from the obtained AVClips, Clip information and PlayList information, and the remaining information is assembled into one file as additional contents by an archiver program; when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request”)

Re claim 8, Yahata discloses a method for providing a channel service by a playback apparatus supporting a BD-J specification, the method comprising steps of:

(a) receiving a fixed information associated with a streaming data of the channel service according to a request for the channel service included in a user input (see fig. 30 ¶ 347 “each of the decoders receives elementary streams”), (see figs. 1, 33 ¶s 93-94, 429 “The playback apparatus 300 is also able to download content from a server 700 of a movie distributor via a network” in which the network as illustrated in figure 1 is used by the server to transmit such information to the playback apparatus; hence, the channel service providing server are such servers. However, the reference of Chen discloses below the channel service providing server), (see figs. 14 & 16 ¶s 185-186 “a file (00002.mpls) to which extension “mpls” is attached is information that defines a group made by binding up two types of playback paths called MainPath and Subpath as playlist (PL)” which are fixed information), (see ¶ 426 “PlayList information, when such
additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request” in which PlayList information is fixed information), (see fig. 30 ¶ 395 “the operation receiving unit 26 receives specification of an operation made by a user on the remote controller”); (b) after step (a), configuring the playback apparatus for a playback of the streaming data based on the fixed information (see fig. 12 ¶s 162-163 “the MainPath is a playback path that is defined in terms of a video stream, such as the main video, and an audio stream”); (c) after step (b), receiving a variable information associated with the streaming data (see fig. 30 ¶ 347 “each of the decoders receives elementary streams”); and (d) after step (c), playing the streaming data based on the fixed information and the variable information (see fig. 30 ¶s 347 & 349 “each of the decoders receives elementary streams passed through the PID filter 3b and performs from decoding processing to playback processing according to the PCR of Primary TS (STC1 time axis)”)

But fails to explicitly teach wherein the fixed information includes at least one of BUMF information and SF information. However, the reference of Takashima explicitly teaches wherein the fixed information includes at least one of BUMF information and SF information (see figs. 6, 7, 14-16 ¶s 74-75, 106, 112-114, 118-124, 129-131, 139, 145, 163, 169-170, 178-186, 189, 194-199, 206-211, 216-221, 227, 230, 233-235, 238-239, 240-242 for BUMF information and SF information)

Therefore, taking the combined teachings of Yahata and Takashima as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature
(SF information) into the system of Yahata at the time the invention was made as taught by Takashima.

One will be motivated to incorporate the feature SF information into the system of Yahata as taught by Takashima for the benefit of implementing a file tampering validation data (e.g., Binding Unit Signature File (BUSF), which is a signature setting file wherein a server private key for providing the substantial data is applied to the data that structures the BUMF in order to enable the performance of strict usage control of the subsequent data (see ¶12)

Furthermore, fails to explicitly teach channel service providing server. However, the reference of Chen explicitly teaches channel service providing server (see fig. 3 ¶¶ 40-41 (channel service providing server (i.e. Process unit 102)) “Process unit 102 is used for responding to service information inquiries, receiving requests from subscriber terminal 200, updating the authorization information of the subscriber terminal, and sending a new channel list to terminal service management unit 201 in subscriber terminal 200”), (see fig. 4 ¶¶s 45, 51-53 (channel service providing server (i.e. IPTV application apparatus 100)) “s402: The IPTV application apparatus receives a request from a subscriber terminal. s404: The IPTV application apparatus sends a new channel list to the subscriber terminal”)

Therefore, taking the combined teachings of Yahata and Chen as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature
(channel) into the system of Yahata at the time the invention was made as taught by Chen.

One will be motivated to incorporate the feature channel into the system of Yahata as taught by Chen for the benefit of generating a channel list for the subscriber terminal according to the authorization information in order to improve efficiency (see ¶ 11)

Re claim 10, the combination of Yahata, Takashima and Chen as discussed in claim 8 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the step (b) comprises configuring a virtual package for the playback of the streaming data based on the fixed information (see fig. 1 ¶s 94, 426 “a technology called “Virtual Package” combines content recorded on the BD-ROM 100 with content stored in the local storage 200 and treats data not recorded on the BD-ROM 100 in the way as if it is recorded on the BD-ROM 100”), (see ¶ 590 “the BD-ROM playback apparatus may be caused to perform a process of creating Virtual Package”)

Re claim 11, the combination of Yahata, Takashima and Chen as discussed in claim 8 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the step (c) comprises receiving the variable information transmitted from a channel service providing server according to a request for the variable information input (see ¶ 426 “when such additional contents are obtained after
these processes, the additional contents are provided to a www server and sent to playback apparatus upon request”), (see figs. 1, 33 ¶s 93-94, 429 “The playback apparatus 300 is also able to download content from a server 700 of a movie distributor via a network” in which the network as illustrated in figure 1 is used by the server to transmit such information to the playback apparatus; hence, the channel service providing server are such servers. However, the reference of Chen discloses below the channel service providing server), (see fig. 8 ¶ 123 “TS packets containing an AVClip are subjected to before they are written to the BD-ROM”) and (see fig. 8 ¶ 124 “the TS_extra_header includes Arrival_Time_Stamp that is information indicating the time at which the TS packet is input to the decoder” in which the TS packets include variable information such as AVClips)

Furthermore, fails to explicitly teach channel service providing server. However, the reference of Chen explicitly teaches channel service providing server (see fig. 3 ¶s 40-41 (channel service providing server (i.e. Process unit 102)) “Process unit 102 is used for responding to service information inquiries, receiving requests from subscriber terminal 200, updating the authorization information of the subscriber terminal, and sending a new channel list to terminal service management unit 201 in subscriber terminal 200”), (see fig. 4 ¶s 45, 51-53 (channel service providing server (i.e. IPTV application apparatus 100)) “s402: The IPTV application apparatus receives a request from a subscriber terminal. s404: The IPTV application apparatus sends a new channel list to the subscriber terminal”
Therefore, taking the combined teachings of Yahata and Chen as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (channel) into the system of Yahata at the time the invention was made as taught by Chen.

Per claim 11, Yahata and Chen are combined for the same motivation as set forth in claim 8 above.

**Re claim 12,** the combination of Yahata, Takashima and Chen as discussed in claim 4 above discloses all the claimed limitations of claim 12.

**Re claim 13,** the combination of Yahata, Takashima and Chen as discussed in claim 12 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the step (c) comprises receiving the clip information, and wherein the step (d) comprises playing one of the one or more clips corresponding to the clip information (see fig. 8 ¶ 138 “even if the file extents constituting the AVClip are located discretely on the BD-ROM, TS packets are continuously supplied to the decoder so that the data is read out continuously during the playback”) and (see fig. 9 ¶ 140 “an AVClip that is stored in the local storage and played back with a MainClip is called the "Sub-Clip"”)

**Re claim 14,** the combination of Yahata, Takashima and Chen as discussed in claim 12 above discloses all the claim limitations with additional claimed feature taught
by Yahata wherein the fixed information includes a playback sequence information on
the one or more clips, and wherein the step (d) comprises playing the one or more clips
according to the playback sequence information (see fig. 4 ¶ 117 “video and audio
streams are stored in a PES packet sequence”), (see fig. 8 ¶ 126 “such
ATC_Sequences constitute the AVClip”), (see fig. 10 ¶s 149-150 “the Sequence
Info is information regarding one or more STC-Sequences and ATC-Sequences
contained in the AVClip; Program is a group of elementary streams that have in
common a time axis for synchronous playback”)

Re claim 15, the combination of Yahata, Takashima and Chen as discussed in
claim 14 above discloses all the claim limitations with additional claimed feature taught
by Yahata comprises (e) storing the one or more clips including the streaming data in a
storage space (see fig. 9 ¶ 140 “an AVClip that is stored in the local storage and
played back with a MainClip is called the "Sub-Clip" in which AVClip is digital
stream data), (see fig. 14 ¶s 168 & 171 “the following information is stored:
PlayList information; Clip information; and AVClips” in which AVClip is digital
stream data)

Re claim 17, the combination of Yahata, Takashima and Chen as discussed in
claim 15 above discloses all the claim limitations with additional claimed feature taught
by Yahata wherein the step (d) comprises reading and playing at least one of the one or
more clips stored in the storage space, the at least one being selected according to a
user input (see fig. 19 ¶ 221 “among elementary streams read from the BD-ROM and the local storage, ones allowed to be played back”), (see fig. 19 ¶ 224 “the decoding elementary streams are a video stream, an audio stream, a PG stream and an IG stream that have been allowed in the STN_table to be played back and have been selected for simultaneous playback; some decoding elementary streams are read from the local storage and others are read from the BD-ROM”), (see fig. 30 ¶ 395 “the operation receiving unit 26 receives specification of an operation made by a user on the remote controller”), (see ¶ 570 “to create a module manager in the playback apparatus which selects a title according to the mount of the BD-ROM, a user operation, or a state of the apparatus”)

2. Claims 6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yahata et al. (US 2009/0097821 A1) (hereinafter Yahata) as applied to claims 1, 3-5, 8, 10-15 and 17 above, and further in view of Takashima et al. (US 2009/0271411 A1) (hereinafter Takashima), and further in view of Chen (US 2008/0244658 A1) (hereinafter Chen), and further in view of Berger (US 2007/0198468 A1) (hereinafter Berger).

Re claim 6, the combination of Yahata, Takashima and Chen as discussed in claim 4 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the step (b) comprises storing the one or more clips in a circular queue in a storage space (see fig. 9 ¶ 140 “an AVClip that is stored in the local storage and played back with a MainClip is called the "Sub-Clip"”), (see fig. 14 ¶s 168 &
171 “the following information is stored: PlayList information; Clip information; and AVClips”)

But fails to explicitly teach wherein the step (b) comprises storing the one or more clips in a circular queue in a storage space. However, the reference of Berger explicitly teach wherein the step (b) comprises storing the one or more clips in a circular queue in a storage space (see fig. 8 ¶s 70 for storing the one or more clips in a circular queue in a storage space)

Therefore, taking the combined teachings of Yahata, Takashima, Chen and Berger as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (queue) into the system of Yahata at the time the invention was made as taught by Berger.

One will be motivated to incorporate the feature queue into the system of Yahata as taught by Berger for the benefit of transmitting all content items in the queue repeatedly in order to ease the processing time and improve efficiency (see ¶ 6)

Re claim 16, the combination of Yahata, Takashima and Chen as discussed in claim 15 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the one or more clips stored in the storage space are in a circular queue (see fig. 9 ¶ 140 “an AVClip that is stored in the local storage and played back with a MainClip is called the "Sub-Clip"”), (see fig. 14 ¶s 168 & 171 “the following information is stored: PlayList information; Clip information; and AVClips”)

But fails to explicitly teach wherein the step (b) comprises storing the one or more clips in a circular queue in a storage space. However, the reference of Berger explicitly teach wherein the step (b) comprises storing the one or more clips in a circular queue in a storage space (see fig. 8 ¶s 70 for storing the one or more clips in a circular queue in a storage space).

Therefore, taking the combined teachings of Yahata, Takashima, Chen and Berger as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (queue) into the system of Yahata at the time the invention was made as taught by Berger.

Per claim 16, Yahata, Takashima, Chen and Berger are combined for the same motivation as set forth in claim 6 above.

3. Claims 19-20 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takashima et al. (US 2009/0271411 A1) (hereinafter Takashima), and further in view of Yahata et al. (US 2009/0097821 A1) (hereinafter Yahata), and further in view of Chen (US 2008/0244658 A1) (hereinafter Chen).

Re claim 19, Takashima discloses a method for providing a channel service, the method comprising steps of: by the channel service providing server, transmitting BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information for the selected channel service to the playback apparatus (see fig. 1, 11 ¶s 148, 150-152 “The server references the information regarding the content that is possessed, received from the user information processing device, generates a list of content corresponding to the content that can be provided to the user, and
then, in Step S103, sends this list to the user-side information processing device; owned content information is received by the server from the user information processing device through the communication unit” in which the communication unit (i.e. network) as illustrated in figure 1 is used by the servers to transmit such information to the user device; hence, the channel service providing server are such servers. However, the reference of Chen discloses below the channel service providing server), (see fig. 11 ¶s 156-163 “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like) are sent to the user-side information processing device”), (see fig. 11 ¶s 178, 182-183 “in Step S108, the user-side information processing device performs a process for generating or updating the filename conversion table (manifest file (BUMF)) that includes the filename conversion information for the subsequential data that has been obtained”), (see fig. 19 ¶ 218 “The server 131 performs the process for providing the subsequential data, and performs a process for receiving a filename conversion table (manifest file (BUMF)) that has been generated or updated in the information processing device 100, generating the file tampering validation data (BUSF), and sending the file tampering validation data (BUSF) to the information processing device 100”); by the playback apparatus, performing a package update from a disk package to a virtual
package, based on the BUMF information, the SF information and the playlist information (see figs. 1, 7-8 ¶s 123-125, 129 “Processes are required to generate or update the manifest file (BUMF) and control data, and to generate or update the file tampering validation data (BUSF), each time this type of subsequential data is obtained”), (see fig. 11 ¶ 161 “The user-side information processing device stores the files of the subsequential data itself, for example, the AVStream, the ClipInfo, the PlayList, and so forth, and then performs the process of generating or updating the download file local control information and the control data such as the downloaded content list”), (see fig. 15 ¶s 170-176 “Next, in the Step S207, three types of information are referenced to generate or update the download file local control information (shown in FIG. 8”), (see fig. 11 ¶s 178, 181-185 “in Step S108, the user-side information processing device performs a process for generating or updating the filename conversion table (manifest file (BUMF)) that includes the filename conversion information for the subsequential data that has been obtained”); by the channel service providing server, progressively generating clips constituting streaming data and also generating clip information about each clip (see fig. 11 ¶s 156-163 “The user-side information processing device stores the files of the subsequential data itself, for example, the AVStream, the ClipInfo, the PlayList, and so forth, and then performs the process of generating or updating the download file local control information and the control data such as the downloaded content list”); by the playback apparatus, receiving a first clip and first clip information about the first clip from the channel service providing server (see fig. 11
¶s 156-163 “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like)) are sent to the user-side information processing device”), (see fig. 15 ¶ 170 “allocated as the VFS filenames corresponding to each of the files (the clip information (ClipInfo) file, the clip AV stream (ClipAVStream) file, the play list (PlayList) file, etc.) that structure the subsequential data that is received”); and by the playback apparatus, receiving a second clip and second clip information about the second clip from the channel service providing server (see fig. 11 ¶s 156-163 “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like)) are sent to the user-side information processing device”), (see fig. 15 ¶ 170 “allocated as the VFS filenames corresponding to each of the files (the clip information (ClipInfo) file, the clip AV stream (ClipAVStream) file, the play list (PlayList) file, etc.) that structure the subsequential data that is received”)

But fails to explicitly teach and then playing the first clip, and then playing the second clip. However, the reference of Yahata explicitly teaches and then playing the
first clip, and then playing the second clip (see ¶ 140 “an AVClip that is stored in the local storage and played back with a MainClip is called the "SubClip"”), (see fig. 12 ¶ 163 “"Clip Information file_name" that indicates the file name of the playback section information of the AVClip to which the IN point and the OUT point of the playback section belong”), (see figs. 16, 18-19 ¶s 188, 201, 203, 209, 222, 455, 463 “Whereas the MainPath is a playback path defined for the MainClip which is a main video, the Subpath is a playback path defined for the SubClip which synchronizes with the MainPath”)

Therefore, taking the combined teachings of Takashima and Yahata as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (playback) into the system of Takashima at the time the invention was made as taught by Yahata.

One will be motivated to incorporate the feature playback into the system of Takashima as taught by Yahata for the benefit of implementing an Out-of-MUX framework which is a technology that simultaneously reads a digital stream recorded on a read-only recording medium, such as a BD-ROM, and a digital stream recorded in a local storage, which is a rewritable recording medium, supplies them to a decoder, and then plays back them synchronously in order to improve efficiency (see ¶ 2)

Furthermore, fails to explicitly teach by a playback apparatus, transmitting a request for the channel service selected in a channel list to a channel service providing server. However, the reference of Chen explicitly teaches by a playback apparatus,
transmitting a request for the channel service selected in a channel list to a channel service providing server (see fig. 3 ¶s 40-41 (channel service providing server (i.e. Process unit 102)) “Process unit 102 is used for responding to service information inquiries, receiving requests from subscriber terminal 200, updating the authorization information of the subscriber terminal, and sending a new channel list to terminal service management unit 201 in subscriber terminal 200”), (see fig. 4 ¶s 45, 51-53 (channel service providing server (i.e. IPTV application apparatus 100)) “s402: The IPTV application apparatus receives a request from a subscriber terminal. s404: The IPTV application apparatus sends a new channel list to the subscriber terminal”)

Therefore, taking the combined teachings of Takashima and Chen as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (request) into the system of Takashima at the time the invention was made as taught by Chen.

One will be motivated to incorporate the feature request into the system of Takashima as taught by Chen for the benefit of implementing an IPTV live broadcast service for receiving a request from a subscriber terminal in order to improve efficiency (see ¶s 8-9)

Re claim 20, the combination of Takashima, Yahata and Chen as discussed in claim 19 above discloses all the claim limitations with additional claimed feature taught by Takashima when the BUMF information is configured in a manner that the first clip
through an n-th clip are sequentially received, by the channel service providing server, after generating the n-th clip, configuring subsequent streaming data into another first clip through n-th clip, wherein the n is a natural number equal to or greater than two (see fig. 1, 11 ¶ 148, 150-152 “The server references the information regarding the content that is possessed, received from the user information processing device, generates a list of content corresponding to the content that can be provided to the user, and then, in Step S103, sends this list to the user-side information processing device; owned content information is received by the server from the user information processing device through the communication unit” in which the communication unit (i.e. network) as illustrated in figure 1 is used by the servers to transmit such information to the user device; hence, the channel service providing server are such servers. However, the reference of Chen discloses below the channel service providing server), (see fig. 11 ¶s 156-163 “in Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like)) are sent to the user-side information processing device” since the n refers to clips, the n can be a natural number equal to or greater than two), (see fig. 15 ¶ 170 “allocated as the VFS filenames corresponding to each of the files (the clip information (ClipInfo) file, the clip AV stream (ClipAVStream) file, the play list (PlayList) file, etc.) that
structure the subsequential data that is received” since the n refers to clips, the n can be a natural number equal to or greater than two), (see fig. 11 ¶s 178, 181-185 “in Step S108, the user-side information processing device performs a process for generating or updating the filename conversion table (manifest file (BUMF)) that includes the filename conversion information for the subsequential data that has been obtained”)

But fails to explicitly teach and played. However, the reference of Yahata explicitly teaches and played (see ¶ 140 “an AVClip that is stored in the local storage and played back with a MainClip is called the "SubClip"”), (see fig. 12 ¶ 163 “"Clip_Information file_name" that indicates the file name of the playback section information of the AVClip to which the IN point and the OUT point of the playback section belong”), (see figs. 16, 18-19 ¶s 188, 201, 203, 209, 222, 455, 463 “Whereas the MainPath is a playback path defined for the MainClip which is a main video, the Subpath is a playback path defined for the SubClip which synchronizes with the MainPath”)

Therefore, taking the combined teachings of Takashima, Yahata and Chen as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (playback) into the system of Takashima at the time the invention was made as taught by Yahata.

Per claim 20, Takashima and Yahata are combined for the same motivation as set forth in claim 19 above.
Furthermore, fails to explicitly teach channel service providing server. However, the reference of Chen explicitly teaches channel service providing server (see fig. 3 ¶s 40-41 (channel service providing server (i.e. Process unit 102)) “Process unit 102 is used for responding to service information inquiries, receiving requests from subscriber terminal 200, updating the authorization information of the subscriber terminal, and sending a new channel list to terminal service management unit 201 in subscriber terminal 200”), (see fig. 4 ¶s 45, 51-53 (channel service providing server (i.e. IPTV application apparatus 100)) “s402: The IPTV application apparatus receives a request from a subscriber terminal. s404: The IPTV application apparatus sends a new channel list to the subscriber terminal”)

Therefore, taking the combined teachings of Takashima, Yahata and Chen as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (channel) into the system of Takashima at the time the invention was made as taught by Chen.

One will be motivated to incorporate the feature channel into the system of Takashima as taught by Chen for the benefit of generating a channel list for the subscriber terminal according to the authorization information in order to improve efficiency (see ¶ 11)

Re claim 29, Takashima discloses a method of providing a channel service by a playback apparatus supporting a BD-J specification, the method comprising steps of: (a) generating a first request for the channel service according to a user input (see fig. 11
¶s 146-147 “This information is sent to the server in Step S102, and a list of the subsequential data (i.e., a list of content) that can be provided in response to the content that is possessed is requested.”); (b) transmitting the first request to a channel service providing server (see ¶s 155-156 “A content acquisition request is sent to the server by this process. The content acquisition request is sent to the server as the content selection instruction in Step S105 illustrated in FIG. 11.”); (c) receiving fixed information on format of streaming data of a selected channel service from the channel service providing server (see fig. 1, 11 ¶148, 150-152 “The server references the information regarding the content that is possessed, received from the user information processing device, generates a list of content corresponding to the content that can be provided to the user, and then, in Step S103, sends this list to the user-side information processing device; owned content information is received by the server from the user information processing device through the communication unit” in which the communication unit (i.e. network) as illustrated in figure 1 is used by the servers to transmit such information to the user device; hence, the channel service providing server are such servers. However, the reference of Chen discloses below the channel service providing server), (see fig. 11 ¶s 156-163 “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like) are
sent to the user-side information processing device” in which PlayList files are fixed information), (see fig. 15 ¶ 170 “allocated as the VFS filenames corresponding to each of the files (the clip information (ClipInfo) file, the clip AV stream (ClipAVStream) file, the play list (PlayList) file, etc.) that structure the subsequent data that is received” in which PlayList files are fixed information), the fixed information including BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information (see fig. 11 ¶s 156-163 “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequent data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like)) are sent to the user-side information processing device”), (see fig. 11 ¶s 178, 182-183 “in Step S108, the user-side information processing device performs a process for generating or updating the filename conversion table (manifest file (BUMF)) that includes the filename conversion information for the subsequent data that has been obtained”), (see fig. 19 ¶ 218 “The server 131 performs the process for providing the subsequent data, and performs a process for receiving a filename conversion table (manifest file (BUMF)) that has been generated or updated in the information processing device 100, generating the file tampering validation data (BUSF), and sending the file tampering validation data (BUSF) to the information processing device 100”); (e) transmitting a second request for a variable information
on each of one or more clips generated by the channel service providing server to the channel service providing server (see ¶s 155-156 “A content acquisition request is sent to the server by this process. The content acquisition request is sent to the server as the content selection instruction in Step S105 illustrated in FIG. 11.”); (f) receiving the variable information from the channel service providing server (see fig. 11 ¶s 156-163 “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like) are sent to the user-side information processing device” in which the clip information (ClipInfo) file and the clip AV stream (ClipAVStream) file are variable information), (see fig. 15 ¶ 170 “allocated as the VFS filenames corresponding to each of the files (the clip information (ClipInfo) file, the clip AV stream (ClipAVStream) file, the play list (PlayList) file, etc.) that structure the subsequential data that is received” in which the clip information (ClipInfo) file and the clip AV stream (ClipAVStream) file are variable information); (g) generating a transmission request for the one or more clips corresponding to clip information included in the variable information (see fig. 11 ¶s 146-147 “This information is sent to the server in Step S102, and a list of the subsequential data (i.e., a list of content) that can be provided in response to the content that is possessed is requested.”), (see fig. 11 ¶s 155-163 “In Step S106, the server sends, to the user-side information processing device, data
corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, ClipInfo, or PlayList files, or the like) are sent to the user-side information processing device” in which the clip information (ClipInfo) file and the clip AV stream (ClipAVStream) file are variable information), (see fig. 15 ¶ 170 “allocated as the VFS filenames corresponding to each of the files (the clip information (ClipInfo) file, the clip AV stream (ClipAVStream) file, the play list (PlayList) file, etc.) that structure the subsequential data that is received” in which the clip information (ClipInfo) file and the clip AV stream (ClipAVStream) file are variable information); and (h) receiving the streaming data including the one or more clips from the channel service providing server (see fig. 11 ¶s 156-163 “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, ClipInfo, or PlayList files, or the like) are sent to the user-side information processing device”), (see fig. 15 ¶ 170 “allocated as the VFS filenames corresponding to each of the files (the clip information (ClipInfo) file, the clip AV stream (ClipAVStream) file, the play list (PlayList) file, etc.) that structure the subsequential data that is received”)
But fails to explicitly teach (d) configuring the playback apparatus to play the streaming data based on the fixed information. However, the reference of Yahata explicitly teaches (d) configuring the playback apparatus to play the streaming data based on the fixed information (see ¶ 140 “an AVClip that is stored in the local storage and played back with a MainClip is called the "SubClip"”), (see figs. 12-13 ¶s 163-165 “"Clip_information file_name" that indicates the file name of the playback section information of the AVClip to which the IN point and the OUT point of the playback section belong”), (see figs. 16, 18-19 ¶s 188, 201, 203, 209, 222, 455, 463 “Whereas the Mainpath is a playback path defined for the MainClip which is a main video, the Subpath is a playback path defined for the SubClip which synchronizes with the MainPath” in which the PlayList information is the fixed information which includes MainPath information and SubPath information)

Therefore, taking the combined teachings of Takashima and Yahata as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (playback) into the system of Takashima at the time the invention was made as taught by Yahata.

One will be motivated to incorporate the feature playback into the system of Takashima as taught by Yahata for the benefit of implementing an Out-of-MUX framework which is a technology that simultaneously reads a digital stream recorded on a read-only recording medium, such as a BD-ROM, and a digital stream recorded in a local storage, which is a rewritable recording medium, supplies them to a decoder, and then plays back them synchronously in order to improve efficiency (see ¶ 2)
Furthermore, fails to explicitly teach channel service providing server. However, the reference of Chen explicitly teaches channel service providing server (see fig. 3 ¶s 40-41 (channel service providing server (i.e. Process unit 102)) “Process unit 102 is used for responding to service information inquiries, receiving requests from subscriber terminal 200, updating the authorization information of the subscriber terminal, and sending a new channel list to terminal service management unit 201 in subscriber terminal 200”), (see fig. 4 ¶¶s 45, 51-53 (channel service providing server (i.e. IPTV application apparatus 100)) “s402: The IPTV application apparatus receives a request from a subscriber terminal. s404: The IPTV application apparatus sends a new channel list to the subscriber terminal”)

Therefore, taking the combined teachings of Takashima and Chen as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (channel) into the system of Takashima at the time the invention was made as taught by Chen.

One will be motivated to incorporate the feature channel into the system of Takashima as taught by Chen for the benefit of generating a channel list for the subscriber terminal according to the authorization information in order to improve efficiency (see ¶ 11)

4. Claims 21, 26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yahata et al. (US 2009/0097821 A1) (hereinafter Yahata), and further in view of Chen (US 2008/0244658 A1) (hereinafter Chen).
Re claim 21, Yahata discloses a method of providing a channel service by a channel service providing server, the method comprising steps of: (a) transmitting fixed information on format of streaming data of a selected channel service to a playback apparatus (see fig. 22 ¶ 239 “the temporal transition of the total transmission amount is as shown by the solid curve; the total data amount is the sum amount of TS packets belonging to streams that have been allowed in the STN table”), (see figs. 1, 33 ¶s 94, 429 “The playback apparatus 300 is also able to download content from a server 700 of a movie distributor via a network” in which the network as illustrated in figure 1 is used by the server to transmit such information to the playback apparatus; hence, the channel service providing server are such servers. However, the reference of Chen discloses below the channel service providing server), (see figs. 14 & 16 ¶s 185-186 “a file (00002.mpls) to which extension ”mpls” is attached is information that defines a group made by binding up two types of playback paths called MainPath and Subpath as playlist (PL)” which are fixed information), (see ¶ 426 “PlayList information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request” in which PlayList information is fixed information); (b) after step (a), generating one or more clips from the streaming data according to the fixed information (see figs. 18, 31, 43 ¶s 209, 391, 397, 435-438, 526 “The verification unit 63 judges, by referring to the STN_table in the PlayList information generated by the scenario converter 61” In which generating one or
more clips from the streaming data according to the fixed information; in which
PlayList information is fixed information); (c) after step (b), generating variable
information on each of the one or more clips when a request for the variable
information is received (see fig. 3 ¶s 105, 123-124, 435-438 "The AVClip is a digital
stream in the MPEG2-Transport Stream format. The digital stream is generated by
converting the digitized video and audio (upper Level 1) into an elementary
stream composed of PES packets (upper Level 2), and converting the elementary
stream into TS packets (upper Level 3), and similarly, converting the Presentation
Graphics (PG) stream for the subtitles or the like and the Interactive Graphics (IG)
stream for the interactive purposes (lower Level 1 and lower Level 2) into the TS
packets (lower Level 3), and then finally multiplexing these TS packets." In which
generating variable information such as AVClip), (see ¶ 426 "AVClips, Clip
information making up one pieces of volume data are obtained. “AVClips, Clip
information, when such additional contents are obtained after these processes,
the additional contents are provided to a www server and sent to playback
apparatus upon request” in which generating variable information such as
AVClips, Clip information on each of the one or more clips when a request for the
variable information is received); (d) after step (c), transmitting the variable
information to the playback apparatus (see ¶ 426 “AVClips, Clip information making
up one pieces of volume data are obtained. AVClips, Clip information, when such
additional contents are obtained after these processes, the additional contents
are provided to a www server and sent to playback apparatus upon request” in
which these are variable information associated with the streaming data); (e) after step (d), storing the streaming data including the one or more clips in a storage space of the channel service providing server (see fig. 9 ¶ 140 “an AVClip that is stored in the local storage and played back with a MainClip is called the "Sub-Clip"” in which AVClip is digital stream data, (see fig. 14 ¶s 168 & 171 “the following information is stored: PlayList information; Clip information; and AVClips” in which AVClip is digital stream data); and (f) after step (e), transmitting the streaming data including the one or more clips to the playback apparatus (see figs. 22, 23A-23B ¶s 239-240 “this indicates that the data amount supplied from the BD-ROM and the local storage is limited to the transmittable amount or less in any window”), (see ¶ 426 “AVClips, Clip information and PlayList information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request” in which AVClip is digital stream data)

But fails to explicitly teach channel service providing server. However, the reference of Chen explicitly teaches channel service providing server (see fig. 3 ¶s 40-41 (channel service providing server (i.e. Process unit 102)) “Process unit 102 is used for responding to service information inquiries, receiving requests from subscriber terminal 200, updating the authorization information of the subscriber terminal, and sending a new channel list to terminal service management unit 201 in subscriber terminal 200”), (see fig. 4 ¶s 45, 51-53 (channel service providing server (i.e. IPTV application apparatus 100)) “s402: The IPTV application
apparatus receives a request from a subscriber terminal. s404: The IPTV application apparatus sends a new channel list to the subscriber terminal”)

Therefore, taking the combined teachings of Yahata and Chen as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (channel) into the system of Yahata at the time the invention was made as taught by Chen.

One will be motivated to incorporate the feature channel into the system of Yahata as taught by Chen for the benefit of generating a channel list for the subscriber terminal according to the authorization information in order to improve efficiency (see ¶ 11)

Re claim 26, the combination of Yahata and Chen as discussed in claim 21 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein step (c) comprises generating the variable information associated with the generated clip, before the entirety of the one or more clips are generated (see fig. 3 ¶s 105, 123-124, 435-438 "The AVClip is a digital stream in the MPEG2-Transport Stream format. The digital stream is generated by converting the digitized video and audio (upper Level 1) into an elementary stream composed of PES packets (upper Level 2), and converting the elementary stream into TS packets (upper Level 3), and similarly, converting the Presentation Graphics (PG) stream for the subtitles or the like and the Interactive Graphics (IG) stream for the interactive purposes (lower Level 1 and lower Level 2) into the TS packets (lower Level 3),
and then finally multiplexing these TS packets." In which generating variable information such as AVClip associated with the generated clip, before the entirety of the one or more clips are generated), (see ¶ 426 “AVClips, Clip information making up one pieces of volume data are obtained. “AVClips, Clip information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request” in which the AVClips, Clip information are variable information)

Re claim 28, the combination of Yahata and Chen as discussed in claim 21 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein step (f) comprises transmitting the one or more clips corresponding to clip in formation included in the variable information upon a transmission request for the one or more clips from the playback apparatus (see ¶ 426 “AVClips, Clip information making up one pieces of volume data are obtained. AVClips, Clip information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request” in which AVClips, Clip information are variable information)

5. Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yahata et al. (US 2009/0097821 A1) (hereinafter Yahata) as applied to claims 21, 26 and 28 above, and further in view of Chen (US 2008/0244658 A1) (hereinafter Chen), and further in view of Takashima et al. (US 2009/0271411 A1) (hereinafter Takashima).
Re claim 22, the combination of Yahata and Chen as discussed in claim 21 above discloses all the claim limitations with additional claimed feature taught by Yahata the fixed information (see ¶ 426 for fixed information such as PlayList information)

But fails to explicitly teach wherein the fixed information includes BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information. However, the reference of Takashima explicitly teaches wherein the fixed information includes BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information (see figs. 4, 6, 7, 14-16 ¶s 74-75, 80, 97, 99-102, 106, 112-114, 117-124, 129-131, 135, 139-140, 145, 156, 158, 161, 163, 169-170, 178-186, 189, 194-199, 206-211, 216-221, 227, 230, 233-235, 238-239, 240-242 for BUMF information, SF information and playlist information)

Therefore, taking the combined teachings of Yahata, Chen and Takashima as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (SF information) into the system of Yahata at the time the invention was made as taught by Takashima.

One will be motivated to incorporate the feature SF information into the system of Yahata as taught by Takashima for the benefit of implementing a file tampering validation data (e.g., Binding Unit Signature File (BUSF), which is a signature setting file wherein a server private key for providing the substantial data is applied to the data that structures the BUMF in order to enable the performance of strict usage control of the subsequential data (see ¶ 12)
Re claim 23, the combination of Yahata and Chen as discussed in claim 21 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the fixed information includes signature information (see ¶ 426 “PlayList information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request” in which PlayList information is fixed information), (see ¶ 575 “a signature information be attached thereto, and a use authorization be specified in a permission file.”) and download information of the streaming data (see ¶s 94 for download information of the streaming data), the signature information enabling a verification of the validity of the streaming data (see ¶ 575 “a signature information be attached thereto, and a use authorization be specified in a permission file.”), the download information including an order for downloading the one or more clips included in the streaming data (see fig. 13 ¶s 94, 171, 435-437 for download information including an order for downloading the one or more clips included in the streaming data)

Takashima also discloses wherein the fixed information includes signature information (see figs. 4, 6, 7, 14-16 ¶s 74-75, 80, 97, 99-102, 106, 112-114, 117-124, 129-131, 135, 139-140, 145, 156, 158, 161, 163, 169-170, 178-186, 189, 194-199, 206-211, 216-221, 227, 230, 233-235, 238-239, 240-242 for fixed information includes signature information) and download information of the streaming data (see figs. 3-4, 11, 14 ¶s 155-162 for download information of the streaming data), the signature information enabling a verification of the validity of the streaming data (see figs. 4, 6, 7,
14-16 ¶¶s 74-75, 80, 97, 99-102, 106, 112-114, 117-124, 129-131, 135, 139-140, 145,
156, 158, 161, 163, 169-170, 178-186, 189, 194-199, 206-211, 216-221, 227, 230, 233-
235, 238-239, 240-242 for signature information enabling a verification of the
validity of the streaming data), the download information including an order for
downloading the one or more clips included in the streaming data (see figs. 3-4, 11, 14
¶¶s 155-162 for download information including an order for downloading the one
or more clips included in the streaming data)

Therefore, taking the combined teachings of Yahata, Chen and Takashima as a
whole, it would have been obvious to one of ordinary skills in the art to incorporate this
feature (SF information) into the system of Yahata at the time the invention was made
as taught by Takashima.

Per claim 23, Yahata, Chen and Takashima are combined for the same
motivation as set forth in claim 22 above.

6. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over
Yahata et al. (US 2009/0097821 A1) (hereinafter Yahata) as applied to claims 21, 26
and 28 above, and further in view of Chen (US 2008/0244658 A1) (hereinafter
Chen), and further in view of Seo et al. (US 2006/0153022 A1) (hereinafter Seo).

Re claim 24, the combination of Yahata and Chen as discussed in claim 21
above discloses all the claimed limitations but fails to explicitly teach wherein the
streaming data include a first clip to n-th clip, the n-th clip being downloaded while a (n-
1)-th clip is played, the n-th clip being played after the (n-1)-th clip is completely played,
wherein the n is a natural number equal to or greater than two. However, the reference
of Seo explicitly teaches wherein the streaming data include a first clip to n-th clip (see figs. 2, 7-10 ¶s 76, 129, 138, 140, 142, 151, 164-167, 169-170-172 for streaming data include a first clip to n-th clip), the n-th clip being downloaded while a (n-1)-th clip is played, the n-th clip being played after the (n-1)-th clip is completely played, wherein the n is a natural number equal to or greater than two (see figs. 2, 7, 9-10 ¶s 97, 124-126, 131, 142, 164-167, 169 for the n-th clip being downloaded while a (n-1)-th clip is played, the n-th clip being played after the (n-1)-th clip is completely played, and since the n refers to clips, the n can be a natural number equal to or greater than two)

Therefore, taking the combined teachings of Yahata, Chen and Seo as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (download) into the system of Yahata at the time the invention was made as taught by Seo.

One will be motivated to incorporate the feature download into the system of Yahata as taught by Seo for the benefit of using the storage capacity of a local storage for downloading data associated with the recording medium, and storing the downloaded data in order to improve efficiency (see ¶ 27)

7. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yahata et al. (US 2009/0097821 A1) (hereinafter Yahata) as applied to claims 21, 26 and 28 above, and further in view of Chen (US 2008/0244658 A1) (hereinafter Chen), and further in view of Svanbro et al. (US 2005/0125533 A1) (hereinafter Svanbro).
Re claim 25, the combination of Yahata and Chen as discussed in claim 21 above discloses all the claimed limitations but fail to explicitly teach wherein when a live broadcasting is provided within a predetermined period of time, step (b) comprising: (b1) generating the one or more clips from the streaming data corresponding to the live broadcasting of a first part of the predetermined period of time; and (b2) generating the one or more clips from the streaming data corresponding to the live broadcasting of a second part of the predetermined period of time. However, the reference of Svanbro explicitly teaches wherein when a live broadcasting is provided within a predetermined period of time, step (b) comprising: (b1) generating the one or more clips from the streaming data corresponding to the live broadcasting of a first part of the predetermined period of time; and (b2) generating the one or more clips from the streaming data corresponding to the live broadcasting of a second part of the predetermined period of time (see figs. 1-3, 6 ¶¶ 41, 51, 56-57, 64-65, 90-96 for (b1) generating the one or more clips from the streaming data corresponding to the live broadcasting of a first part of the predetermined period of time; and (b2) generating the one or more clips from the streaming data corresponding to the live broadcasting of a second part of the predetermined period of time).

Therefore, taking the combined teachings of Yahata, Chen and Svanbro as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (clips) into the system of Yahata at the time the invention was made as taught by Svanbro.
One will be motivated to incorporate the feature clips into the system of Yahata as taught by Svanbro for the benefit of sending individually selected multimedia content on demand, e.g. files or content, or clips or live, or moving pictures to a large number of end user stations without having to rely on bandwidth consuming unicast on IP networks in order to improve efficiency (see ¶ 28)

8. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yahata et al. (US 2009/0097821 A1) (hereinafter Yahata) as applied to claims 21, 26 and 28 above, and further in view of Chen (US 2008/0244658 A1) (hereinafter Chen), and further in view of Berger (US 2007/0198468 A1) (hereinafter Berger).

Re claim 27, the combination of Yahata and Chen as discussed in claim 21 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein step (e) comprises storing the one or more clips in circular queue (see fig. 9 ¶ 140 “an AVClip that is stored in the local storage and played back with a MainClip is called the "Sub-Clip"”), (see fig. 14 ¶s 168 & 171 “the following information is stored: PlayList information; Clip information; and AVClips”)

But fails to explicitly teach wherein step (e) comprises storing the one or more clips in circular queue. However, the reference of Berger explicitly teach wherein step (e) comprises storing the one or more clips in circular queue (see fig. 8 ¶s 70 for storing the one or more clips in circular queue)

Therefore, taking the combined teachings of Yahata, Chen and Berger as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this
feature (queue) into the system of Yahata at the time the invention was made as taught by Berger.

One will be motivated to incorporate the feature queue into the system of Yahata as taught by Berger for the benefit of transmitting all content items in the queue repeatedly in order to ease the processing time and improve efficiency (see ¶ 6).

9. **Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takashima et al. (US 2009/0271411 A1) (hereinafter Takashima) as applied to claim 29 above, and further in view of Yahata et al. (US 2009/0097821 A1) (hereinafter Yahata), and further in view of Chen (US 2008/0244658 A1) (hereinafter Chen), and further in view of Seo et al. (US 2006/0153022 A1) (hereinafter Seo).**

**Re claim 30,** the combination of Takashima, Yahata and Chen as discussed in claim 29 above discloses all the claim limitations with additional claimed feature taught by Takashima wherein the BUMF information is configured in a manner that a first clip through an n-th clip are sequentially received and played, the method further comprising: sequentially receiving first clip information through n-th clip information generated by the channel service providing server; wherein the n is a natural number equal to or greater than two (see fig. 1, 11 ¶ 148, 150-152 “The server references the information regarding the content that is possessed, received from the user information processing device, generates a list of content corresponding to the content that can be provided to the user, and then, in Step S103, sends this list to the user-side information processing device; owned content information is
received by the server from the user information processing device through the communication unit” in which the communication unit (i.e. network) as illustrated in figure 1 is used by the servers to transmit such information to the user device; hence, the channel service providing server are such servers. However, the reference of Chen discloses below the channel service providing server), (see fig. 11 ¶s 156-163 “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like)) are sent to the user-side information processing device” since the n refers to clips, the n can be a natural number equal to or greater than two), (see fig. 15 ¶ 170 “allocated as the VFS filenames corresponding to each of the files (the clip information (ClipInfo) file, the clip AV stream (ClipAVStream) file, the play list (PlayList) file, etc.) that structure the subsequential data that is received” since the n refers to clips, the n can be a natural number equal to or greater than two), (see fig. 11 ¶s 178, 181-185 “in Step S108, the user-side information processing device performs a process for generating or updating the filename conversion table (manifest file (BUMF)) that includes the filename conversion information for the subsequential data that has been obtained”)

But fails to explicitly teach and sequentially receiving and playing a clip corresponding to the clip information that has finished downloading. However, the
reference of Seo explicitly teaches and sequentially receiving and playing a clip corresponding to the clip information that has finished downloading (see figs. 7, 9 ¶s 97, 124-126, 132, 140, 166 “The first PlayList can be played after all data reproduced by the PlayList has been completely downloaded” in which the PlayList comprises the clips being played back)

Therefore, taking the combined teachings of Takashima, Yahata, Chen and Seo as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (download) into the system of Takashima at the time the invention was made as taught by Seo.

One will be motivated to incorporate the feature download into the system of Takashima as taught by Seo for the benefit of using the storage capacity of a local storage for downloading data associated with the recording medium, and storing the downloaded data in order to improve efficiency (see ¶ 27)

Furthermore, fails to explicitly teach channel service providing server. However, the reference of Chen explicitly teaches channel service providing server (see fig. 3 ¶s 40-41 (channel service providing server (i.e. Process unit 102)) “Process unit 102 is used for responding to service information inquiries, receiving requests from subscriber terminal 200, updating the authorization information of the subscriber terminal, and sending a new channel list to terminal service management unit 201 in subscriber terminal 200”), (see fig. 4 ¶s 45, 51-53 (channel service providing server (i.e. IPTV application apparatus 100)) “s402: The IPTV application
apparatus receives a request from a subscriber terminal. s404: The IPTV application apparatus sends a new channel list to the subscriber terminal”

Therefore, taking the combined teachings of Takashima, Yahata and Chen as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (channel) into the system of Takashima at the time the invention was made as taught by Chen.

One will be motivated to incorporate the feature channel into the system of Takashima as taught by Chen for the benefit of generating a channel list for the subscriber terminal according to the authorization information in order to improve efficiency (see ¶ 11)

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSE MESA whose telephone number is (571)270-1706. The examiner can normally be reached on Monday Thru Thursday from 8:30am to 6:00pm Est. The examiner can also be reached on alternate Monday Thru Friday from 8:30am to 6:00pm Est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran, can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.
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/J. M./ 05/31/2013
Examiner, Art Unit 2484

/Thai Tran/
Supervisory Patent Examiner, Art Unit 2484
# Notice of References Cited

**Application/Control No.**
12/457,508

**Applicant(s)/Patent Under Reexamination**
BAEK ET AL.

**Examiner**
JOSE MESA

**Art Unit**
2484

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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.*
**Search Notes**

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**SEARCH NOTES**

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**INTERFERENCE SEARCH**

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/J. M./
Examiner, Art Unit 2484
**BIB DATA SHEET**

**CONFIRMATION NO. 4330**

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- Seong Baek Lee, Seoul, KOREA, REPUBLIC OF;

**CONTINUING DATA ********************

**FOREIGN APPLICATIONS ********************
- REPUBLIC OF KOREA 10-2008-0058198 06/20/2008

**IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** ** SMALL ENTITY **
- 06/30/2009

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- 1400 EYE STREET, NW
- SUITE 300
- WASHINGTON, DC 20005
- UNITED STATES

**TITLE**
- Method for providing channel service

**FILING FEE RECEIVED**
- 1417

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REQUEST FOR CONTINUED EXAMINATION (RCE)
TRANSMITTAL
(INCLUDING FILING FEE AND/OR PETITION FOR
EXTENSION OF TIME FEE)

Subsection (b) of 35 U.S.C. § 132, effective May 29, 2000
provides for continued examination of a utility or plant application
filed on or after June 8, 1995.
See The American Inventors Protection Act of 1999 (AIPA)

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

Application No. 12/457,508
Filing Date June 12, 2009
CPA Filing Date

Title of Invention METHOD FOR PROVIDING CHANNEL SERVICE

Attorney Docket No.: 0366.1013
First Named Inventor: Wonjang BAEK, et al.

Group Art Unit 2484
Examiner Jose M. Mesa
Confirmation No 4330

This is a Request for Continued Examination (RCE), under 37 C.F.R. 1.114, of the above-
identified application.

1. Submission required under 37 C.F.R. 1.114 (Box a or b must be completed)
   a. ☐ Previously submitted
      i. ☐ Consider the amendment(s)/reply under 37 C.F.R. 1.116 previously filed on ___.
         (Any un-entered amendment(s) referred to above will be entered).
      ii. ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on ________.
      iii. ☐ Other: ______
   b. ☒ Enclosed (box i must be checked)
      i. ☒ Amendment/Reply (required)
      ii. ☐ Affidavit(s)/Declaration(s)
      iii. ☐ Information Disclosure Statement (IDS)
      iv. ☐ Other: ______

2. Miscellaneous
   a. ☐ Suspension of action on the above-identified application is requested under 37 C.F.R. 1.103(c)
      for a period of ______ months. (Period of suspension shall not exceed 3 months; Fee under
      37 C.F.R. 1.17(i) required).
   b. ☐ Other: ______
FEE CALCULATION

Since an Official Action set an original due date of March 20, 2013, petition is hereby made for an extension of time to cover the date this RCE is filed, for which the requisite fee is enclosed (1 month ($150); 2 months ($570); 3 months ($1,290); 4 months ($2,010); 5 months ($2,730)):

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Suspension Fee of $130.00 $

Total of above Calculations = $ 1,802.00

Reduction by 50% for filing by small entity $ -

Reduction by 75% for filing by micro entity $ -

TOTAL FEES DUE = $ 1,802.00

METHOD OF PAYMENT

☐ Check enclosed as payment. ☐ Credit Card Payment Form, Form PTO-2038 (attached).
☐ Charge "TOTAL FEES DUE" to the Deposit Account No. below.
☒ Payment authorized and made via EFS-Web.

GENERAL AUTHORIZATION

☒ The Commissioner is hereby authorized to credit any overpayment or charge any additional fees under 37 C.F.R. 1.16 (filing fees) or 37 C.F.R. 1.17 (processing fees) during the prosecution of this application and of any related application(s) claiming benefit hereof pursuant to 35 U.S.C. § 120 to maintain pendency hereof and of any such related application to:

Deposit Account No. 503333

CORRESPONDENCE ADDRESS

STEIN IP, LLC
49,455
PATENT TRADEMARK OFFICE

SIGNATURE OF ATTORNEY OR AGENT REQUIRED

Typed Name  Sungyeop Chung  Reg. No. 64,130
Signature  [Signature]
Date  March 12, 2013

[Page 2 of 2]
Docket No.: 0366.1013

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Wonjang BAEK et al.

Application No. 12/457,508

Confirmation No. 4330

Filed: June 12, 2009

For: METHOD FOR PROVIDING CHANNEL SERVICE

RESPONSE UNDER 37 C.F.R. §1.114

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

Attention: BOX RCE

Sir:

This is in response to the Final Office Action mailed December 20, 2012, and having an initial period for response set to expire on March 20, 2013. This response is being filed with a Request for Continued Examination (RCE) on March 12, 2013, and thus is being filed within three months of the mailing date of the Final Office Action.

Reconsideration of the claims is respectfully requested. The following remarks are respectfully submitted.
IN THE CLAIMS:

Please AMEND claims 1, 8 and 20, and ADD new claims 21-30, in accordance with the following:

1. (Currently amended) A method for providing a channel service by a channel service providing server, the method comprising steps of:

(a) transmitting fixed information associated with streaming data of the channel service to a playback apparatus supporting a BD-J specification according to a request for the channel service received from the playback apparatus;

(b) after step (a), transmitting variable information associated with the streaming data to the playback apparatus; and

(c) after step (b), transmitting the streaming data to the playback apparatus,

wherein the fixed information includes at least one of BUMF information and SF information associated with the streaming data;

wherein the step (a) comprises transmitting the fixed information to the playback apparatus according to a request for the channel service received from the playback apparatus.

2. (Cancelled)

3. (Original) The method in accordance with claim 1, wherein the step (b) comprises transmitting the variable information to the playback apparatus according to a transmission request for the variable information received from the playback apparatus.

4. (Previously presented) The method in accordance with claim 3, wherein the variable information includes clip information corresponding to each of one or more clips included in the streaming data.

5. (Original) The method in accordance with claim 4, wherein the step (b) comprises transmitting the clip information to the playback apparatus, and wherein the step (c) comprises transmitting one of the one or more clips corresponding to the clip information to the playback
apparatus according to the transmission request.

6. (Original) The method in accordance with claim 4, wherein the step (b) comprises storing the one or more clips in a circular queue in a storage space.

7. (Cancelled)

8. (Currently amended) A method for providing a channel service using by a playback apparatus supporting a BD-J specification, the method comprising steps of:
   (a) receiving fixed information associated with streaming data of the channel service according to a request for the channel service included in a user input;
   (b) after step (a), configuring the playback apparatus for a playback of the streaming data based on the fixed information;
   (c) after step (b), receiving variable information associated with the streaming data; and
   (d) after step (c), playing the streaming data based on the fixed information and the variable information,

   wherein the fixed information includes at least one of BUMF information and SF information,

   wherein the step (a) comprises receiving the fixed information from a channel-service providing server according to a request for the channel-service included in a user input.

9. (Cancelled)

10. (Original) The method in accordance with claim 8, wherein the step (b) comprises configuring a virtual package for the playback of the streaming data based on the fixed information.
11. (Original) The method in accordance with claim 8, wherein the step (c) comprises receiving the variable information transmitted from a channel service providing server according to a request for the variable information.

12. (Previously presented) The method in accordance with claim 8, wherein the variable information includes clip information corresponding to each of one or more clips included in the streaming data.

13. (Original) The method in accordance with claim 12, wherein the step (c) comprises receiving the clip information, and wherein the step (d) comprises playing one of the one or more clips corresponding to the clip information.

14. (Previously presented) The method in accordance with claim 12, wherein the fixed information includes playback sequence information on the one or more clips, and wherein the step (d) comprises playing the one or more clips according to the playback sequence information.

15. (Original) The method in accordance with claim 14, further comprises (e) storing the one or more clips including the streaming data in a storage space.

16. (Original) The method in accordance with claim 15, wherein the one or more clips stored in the storage space are in a circular queue.

17. (Original) The method in accordance with claim 15, wherein the step (d) comprises reading and playing at least one of the one or more clips stored in the storage space, the at least one being selected according to a user input.

18. (Cancelled)
19. (Previously presented) A method for providing a channel service, the method comprising steps of:

by a playback apparatus, transmitting a request for the channel service selected in a channel list to a channel service providing server;

by the channel service providing server, transmitting BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information for the selected channel service to the playback apparatus;

by the playback apparatus, performing a package update from a disk package to a virtual package, based on the BUMF information, the SF information and the playlist information;

by the channel service providing server, progressively generating clips constituting streaming data and also generating clip information about each clip;

by the playback apparatus, receiving a first clip and first clip information about the first clip from the channel service providing server and then playing the first clip; and

by the playback apparatus, receiving a second clip and second clip information about the second clip from the channel service providing server and then playing the second clip.

20. (Currently amended) The method of claim 19, further comprising, when the BUMF information is configured in a manner that the first clip through an n-th clip are sequentially received and played, by the channel service providing server, after generating the n-th clip, configuring subsequent streaming data into another first clip through n-th clip, wherein the n is a natural number equal to or greater than two.

21. (New) A method of providing a channel service by a channel service providing server, the method comprising steps of:

(a) transmitting fixed information on format of streaming data of a selected channel service to a playback apparatus;

(b) after step (a), generating one or more clips from the streaming data according to the fixed information;

(c) after step (b), generating variable information on each of the one or more clips
when a request for the variable information is received;

(d) after step (c), transmitting the variable information to the playback apparatus;

(e) after step (d), storing the streaming data including the one or more clips in a storage space of the channel service providing server; and

(f) after step (e), transmitting the streaming data including the one or more clips to the playback apparatus.

22. (New) The method in accordance with claim 21, wherein the fixed information includes BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information.

23. (New) The method in accordance with claim 21, wherein the fixed information includes signature information and download information of the streaming data, the signature information enabling a verification of the validity of the streaming data, the download information including an order for downloading the one or more clips included in the streaming data.

24. (New) The method in accordance with claim 21, wherein the streaming data include a first clip to n-th clip, the n-th clip being downloaded while a (n-1)-th clip is played, the n-th clip being played after the (n-1)-th clip is completely played, wherein the n is a natural number equal to or greater than two.

25. (New) The method in accordance with claim 21, wherein when a live broadcasting is provided within a predetermined period of time, step (b) comprising:

(b1) generating the one or more clips from the streaming data corresponding to the live broadcasting of a first part of the predetermined period of time; and

(b2) generating the one or more clips from the streaming data corresponding to the live broadcasting of a second part of the predetermined period of time.

26. (New) The method in accordance with claim 21, wherein step (c) comprises generating the variable information associated with the generated clip, before the entirety of the
one or more clips are generated.

27. (New) The method in accordance with claim 21, wherein step (e) comprises storing the one or more clips in circular queue.

28. (New) The method in accordance with claim 21, wherein step (f) comprises transmitting the one or more clips corresponding to clip in formation included in the variable information upon a transmission request for the one or more clips from the playback apparatus.

29. (New) A method of providing a channel service by a playback apparatus supporting a BD-J specification, the method comprising steps of:

(a) generating a first request for the channel service according to a user input;

(b) transmitting the first request to a channel service providing server;

(c) receiving fixed information on format of streaming data of a selected channel service from the channel service providing server, the fixed information including BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information;

(d) configuring the playback apparatus to play the streaming data based on the fixed information;

(e) transmitting a second request for a variable information on each of one or more clips generated by the channel service providing server to the channel service providing server;

(f) receiving the variable information from the channel service providing server;

(g) generating a transmission request for the one or more clips corresponding to clip information included in the variable information; and

(h) receiving the streaming data including the one or more clips from the channel service providing server.

30. (New) The method in accordance with claim 29, wherein the BUMF information is configured in a manner that a first clip through an n-th clip are sequentially received and played, the method further comprising:

sequentially receiving first clip information through n-th clip information generated by the
channel service providing server; and

sequentially receiving and playing a clip corresponding to the clip information that has
finished downloading,

wherein the n is a natural number equal to or greater than two.
REMARKS

In accordance with the foregoing, claims 1, 8 and 20 have been amended and new claims 21-30 have been added. Support for the amended features of claims 1, 8 and 20 and the features of new claims 21-30 can be found at least on page 8, penultimate line through page 18, line 17 of the instant application as originally filed.

Upon entry of this amendment, claims 1, 3-6, 8, 10-17 and 19-30 are pending and under consideration. No new matter within the meaning of 35 U.S.C. §132 is presented in this Amendment.

REJECTIONS UNDER 35 U.S.C. §103:


To establish an obviousness rejection under 35 U.S.C. § 103(a), four factual inquiries must be examined. The four factual inquiries include (a) determining the scope and contents of the prior art; (b) ascertaining the differences between the prior art and the claims in issue; (c) resolving the level of ordinary skill in the pertinent art; and (d) evaluating evidence of secondary consideration. Graham v. John Deere, 383 U.S. 1, 17-18 (1966). In view of these four factors, the analysis supporting a rejection under 35 U.S.C. 103(a) should be made explicit, and should "identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements" in the manner claimed. KSR Int’l. Co. v. Telefax, Inc., 550 U.S. 398 (2007). Furthermore, even if the prior art may be combined, there must be a reasonable expectation of success, and the reference or references, when combined, must disclose or suggest all of the claim limitations. See in re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

In view of this framework, Applicants respectfully submit that neither Yahata nor Takashima teaches the following features of claim 1, as amended, inter alia:

A method for providing a channel service by a channel service providing server, the method comprising steps of:

(a) transmitting fixed information ...

(b) after step (a), transmitting variable information associated with the
streaming data to the playback apparatus ... (emphasis added)

As to steps (a) and (b) above, the Office Action concludes that Yahata discloses such features of claim 1 (see page 8, last paragraph to page 9, first paragraph; and page 4, last paragraph to page 5, first paragraph). Particularly, paragraph [0426] of Yahata describes the following:

[0426] When a motion picture is composed of BD-ROM contents and additional contents, the above-mentioned planning process to formatting process are carried out. Then, AVClips, Clip information and PlayList information making up one piece of volume data are obtained. Ones which will be provided by the BD-ROM are removed from the obtained AVClips, Clip information and PlayList information, and the remaining information is assembled into one file as additional contents by an archiver program or the like. When such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatuses upon request. (underline added)

As can be appreciated based on this paragraph, Yahata describes obtaining "AVClips, Clip information and PlayList information making up one piece of volume data" and providing "additional contents," which basically includes all of the AVClips, Clip information and PlayList information except for ones that will be provided by the BD-ROM, to the www server as one single file. Hence, in Yahata, the AVClips and Clip information (alleged "variable information" (Office Action, page 9, lines 3-5)), and the PlayList information (alleged "fixed information" (Office Action, page 9, lines 10-13)) are simultaneously provided to the www server as one single file. No teaching or suggestion is found in Yahata that the AVClips and Clip information (alleged "variable information") are transmitted to the playback apparatus after the PlayList information (alleged "fixed information") is transmitted to the same apparatus. Thus, it is clear that Yahata fails to disclose or suggest at least "(a) transmitting fixed information associated with streaming data of the channel service to a playback apparatus supporting a BD-J specification according to a request for the channel service received from the playback apparatus; (b) after step (a), transmitting variable information associated with the streaming data to the playback apparatus," as recited in claim 1.

The secondary reference, Takashima, was cited against the other features of claim 1, i.e., "wherein the fixed information includes at least one of BUMF information and SF information," but fails to disclose such features of claim 1 as discussed above with regard to Yahata. Thus, assuming arguendo Yahata and Takashima can be combined and a reasonable
expectation of success exists, the combined references still do not teach at least "(a) transmitting fixed information associated with streaming data of the channel service to a playback apparatus supporting a BD-J specification according to a request for the channel service received from the playback apparatus; (b) after step (a), transmitting variable information associated with the streaming data to the playback apparatus," as recited in claim 1.

Since no combination of the cited prior art teaches such features as claimed, Applicants respectfully submit that claim 1 is allowable over Yahata and Takashima, whether taken alone or in combination. Claims 3-6 depend directly or indirectly from claim 1, and are thus allowable for at least this reason.

Furthermore, independent claim 8, as amended, recites *inter alia*:

(a) receiving fixed information associated with streaming data of the channel service according to a request for the channel service included in a user input;

(b) *after step (a)*, configuring the playback apparatus for a playback of the streaming data based on the fixed information;

(c) *after step (b)*, receiving variable information associated with the streaming data ... (emphasis added)

As previously discussed above with regard to claim 1, Yahata fails to teach or suggest that the AVClips and Clip information (alleged "variable information") are transmitted to the playback apparatus *after* the PlayList information (alleged "fixed information") is transmitted to the same apparatus. Thus, for the reasons similar to those applied to claim 1, it is clear that no combination of Yahata and Takashima discloses these features of claim 8 above, *mutatis mutandis*. Accordingly, Applicants respectfully submit that claim 8 is allowable over Yahata and Takashima, whether taken alone or in combination. Claims 10-17 depend directly or indirectly from claim 8, and are thus allowable for at least this reason.

In view of the foregoing, it is respectfully requested that the rejection of 1, 3-6, 8 and 10-17 under 35 U.S.C. §103(a) be withdrawn.


Claim 19 recites, *inter alia*:
by the channel service providing server, transmitting BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information for the selected channel service to the playback apparatus ...
(emphasis added)

With regard to the above, the Office Action concludes that Takashima discloses such claim features (see page 17, item 2, line 5 to page 18, line 13). The Office Action particularly refers to Fig. 11 and the corresponding descriptions of Takashima, stating the following:

Re claim 19, Takashima discloses a method for providing a channel service, the method comprising steps of: by the service providing server, transmitting BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information for the service to the playback apparatus (see fig. 1, 11 ¶ 148, 150-152 "in Step S103, sends this list to the user-side information processing device"), (see fig. 11 ¶s 156-163 "In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like) are sent to the user-side information processing device"), (see fig. 11 ¶s 178, 182-183 "in Step S106, the user-side information processing device performs a process for generating or updating the filename conversion table (manifest file (BUMF)) that includes the filename conversion information for the subsequential data that has been obtained"), (see fig. 19 ¶ 218 "The server 131 performs the process for providing the subsequential data, and performs a process for receiving a filename conversion table (manifest file (BUMF)) that has been generated or updated in the information processing device 100, generating the file tampering validation data (BUSF), and sending the file tampering validation data (BUSF) to the information processing device 100"); by the playback apparatus, performing a

Based on the statements above, it is unclear which element, either the information processing device or the server, disclosed in Takashima the Examiner believes corresponds to the "channel service providing server" as recited in claim 19. In Takashima, the information
processing device is described as "[a PC or reading device] that performs the process of reading an information recording medium (disc) (e.g., a DVD or Blu-ray Disc™)" (see paragraph [0066]). Hence, the information processing device of Takashima must be analogous to the "playback apparatus" of an embodiment of the present application. On the other hand, in the Office Action, page 19, lines 8-12, for example, it is implied that the information processing device of Takashima teaches the "service providing server" as recited in claim 19. Applicants respectfully request the Examiner’s clarification.

However, regardless of whether the information processing device or the server of Takashima is analogous to the "channel service providing server" as recited in claim 19, it is clear that neither element has the features as claimed. While Fig. 11 of Takashima illustrates the transmission of BUMF/BUSF (S108-S112), it fails to disclose the transmission of all three information, i.e., BUMF, SF and playlist, from a server to a playback apparatus. Thus, it is clear that Takashima does not teach “by the channel service providing server, transmitting BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information for the selected channel service to the playback apparatus,” as recited in claim 19 (emphasis added).

Furthermore, claim 19 further recites, inter alia:

**by the playback apparatus**, performing a package update from a disk package to a virtual package, **based on the BUMF information, the SF information and the playlist information** ... (emphasis added)

For the reasons similar to those discussed above with regard to the first features of claim 19, it is respectfully submitted that Takashima fails to disclose or suggest these claim features, *mutatis mutandis.*

The secondary reference, Yahata, was cited against the additional features of claim 19, but fails to cure the deficiencies of Takashima as noted above. Thus, assuming *arguendo* Takashima and Yahata can be combined and a reasonable expectation of success exists, the combined references still do not disclose all of the features recited in claim 19. Accordingly, Applicants respectfully submit that claim 19 is allowable over the cited prior art, whether taken alone or in combination. Claim 20 depends from claim 19, and is thus allowable for at least this reason.

In view of the foregoing, it is respectfully requested that the rejection of claims 19 and 20 under 35 U.S.C. §103(a) be withdrawn.
New claims 21-30 have been added. Claim 21 recites the features similar to those of claim 1 as discussed above with regard to the first 35 U.S.C. §103(a) rejection, and is thus allowable over the prior art of record for at least this reason. Claim 29 recites the features similar to those of claim 19 as noted above with regard to the second 35 U.S.C. §103(a), and is thus allowable over the prior art of record for at least this reason. Claims 22-28 and 30 depend from claims 21 and 29, respectively, and are thus allowable for at least this reason.

CONCLUSION:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

STEIN IP, LLC

Date: March 12, 2013

By: 

Sungyeop Chung
Registration No. 64,130

1400 Eye St., N.W.
Suite 300
Washington, D.C. 20005
Telephone: (202) 216-9505
Facsimile: (202) 216-9510
## Electronic Patent Application Fee Transmittal

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Filed as Large Entity

### Utility under 35 USC 111(a) Filing Fees

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- **Submitted with Payment**: yes
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Warnings:

Information:

**Total Files Size (in bytes):** 1625264

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.
**PATENT APPLICATION FEE DETERMINATION RECORD**

**Substitute for Form PTO-875**

**APPLICATION AS FILED – PART I**

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If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 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).

**APPLICATION AS AMENDED – PART II**

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| TOTAL ADD'L FEE | | |

**Legal Instrument Examiner:** 

*VIKKI GRAY*

---

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

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

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

docketing@smiplaw.com
**Office Action Summary**

**Application No.**
12/457,508

**Applicant(s)**
BAEK ET AL.

**Examiner**
JOSE MESA

**Art Unit**
2484

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

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on 22 August 2012
2a) ☐ This action is FINAL. 2b) ☐ This action is non-final.
3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ☐_; the restriction requirement and election have been incorporated into this action.
4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

5) ☒ Claim(s) 1,3,6,8,10,17,19 and 20 is/are pending in the application.
   5a) Of the above claim(s) _____ is/are withdrawn from consideration.
6) ☐ Claim(s) _____ is/are allowed.
7) ☒ Claim(s) 1,3,6,8,10,17,19 and 20 is/are rejected.
8) ☐ Claim(s) _____ is/are objected to.
9) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, 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.

**Application Papers**

10) ☐ The specification is objected to by the Examiner.
11) ☒ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

**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).
   a) ☐ All b) ☐ Some * c) ☐ None of:
   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 Summary (PTO-413)

   Paper No(s)/Mail Date ______.

2) ☐ Information Disclosure Statement(s) (PTO/SB/08)
4) ☐ Other: ______.

   Paper No(s)/Mail Date ______.
DETAILED ACTION

Response to Arguments

Applicants’ arguments filed on 08/22/2012 with respect to claims 1, 3-6, 8 and 10-17 have been fully considered but they are not persuasive. New claims 19-20 will be addressed in this Office Action.

In re page 6, applicants state that “To establish an obviousness rejection under 35 U.S.C. § 103(a), four factual inquiries must be examined. The four factual inquiries include (a) determining the scope and contents of the prior art; (b) ascertaining the differences between the prior art and the claims in issue; (c) resolving the level of ordinary skill in the pertinent art; and (d) evaluating evidence of secondary consideration. Graham v. John Deem, 383 U.S. I, 17-18 (1966). In view of these four factors, the analysis supporting a rejection under 35 U.S.C. 103(a) should be made explicit, and should “identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements” in the manner claimed. KSR Int’l. Co. v. Telefex, Inc., 550 U.S. 398 (2007). Furthermore, even if the prior art may be combined, there must be a reasonable expectation of success, and the reference or references, when combined, must disclose or suggest all of the claim limitations. See in re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).”

In response, an obviousness rejection has been established under 35 U.S.C. § 103(a). The combined teaching of the primary reference and the secondary reference
do not destroy the primary reference, in fact, it enhances the operation of the primary reference. As a result, the combination of both references won’t change the principle of operation of the primary reference being modified, and then the teachings of the references are sufficient to render the claims prima facie obvious.

In re pages 6-7, applicants state that “Claim 1, as amended, recites, inter alia:

(a) transmitting fixed information associated with streaming data of the channel service to a playback apparatus supporting a BD-J specification; wherein the step (a) comprises transmitting the fixed information to the playback apparatus according to a request for the channel service received from the playback apparatus. (emphasis added) Applicant respectfully notes that none of the cited references teaches these claim features, which have been incorporated from original claim 2. As to claim 2, the Office Action concludes that such claim features are taught by Yahata et al., noting "see [426 'when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request" (Office Action, page 4, paragraph 3, lines 5-7). Applicant respectfully disagrees with this conclusion at least because the cited paragraph does not describe the "fixed information" as recited in step (a) of claim 1. Specifically, the Examiner is respectfully advised to review the Office Action’s another conclusion with respect to step (b) of claim 1, on page 3, paragraph 1, lines 7-9, stating "see [426 'AVClips, Clip information and PlayList information making up one pieces of volume data are obtained' in which these are variable information associated with the streaming data" (emphasis added). Based on this reasoning, it is
clear that paragraph [0426] of Yahata et al. merely describes sending the additional contents to a playback apparatus upon request. No teaching or suggestion is found in Yahata et al. that these additional contents may necessarily include the alleged "fixed information." The secondary reference, Takashima et al., is cited against the feature of claim 1, "wherein the fixed information includes at least one of BUMF information and SF information associated with the streaming data," but fails to cure the deficiencies of Yahata et al. as noted above. Thus, assuming arguendo Yahata et al. and Takashima et al. may be combined and a reasonable expectation of success exists, this combination still does not teach or suggest at least "wherein the step (a) comprises transmitting the fixed information to the playback apparatus according to a request for the channel service received from the playback apparatus" as recited in claim 1. Accordingly, Applicant respectfully submits that claim 1 is allowable over Yahata et al. and Takashima et al., whether taken alone or in combination."

In response examiner respectfully disagrees. The reference of Yahata discloses "wherein the step (a) comprises transmitting the fixed information to the playback apparatus according to a request for the channel service received from the playback apparatus" (see ¶ 426 "PlayList information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request" in which PlayList information is fixed information)
NOTE: PlayList information is NOT variable information but fixed information. Also, in claim 1, the Examiner stated in the prior Office Action that (see figs. 14 & 16 ¶s 185-186 “a file (00002.mpls) to which extension "mpls" is attached is information that defines a group made by binding up two types of playback paths called MainPath and Subpath as playlist (PL)” which are fixed information such as playlist information).

In re pages 6-7, the Applicants state that “Applicant respectfully notes that none of the cited references teaches these claim features, which have been incorporated from original claim 2.”

In response examiner respectfully disagrees. Takashima discloses in fig. 11 paragraph 147 that “This information is sent to the server in Step S102, and a list of the subsequential data (i.e., a list of content) that can be provided in response to the content that is possessed is requested” in which the server may transmit such information to the playback apparatus that has made such request.

And in fig. 11 paragraph 148 that “in Step S103, sends this list to the user-side information processing device” in which the server may transmit such information to the playback apparatus that has made such request.

And in fig. 11 paragraphs 156-163 that “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID
in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like) are sent to the user-side information processing device” in which the server may transmit such information to the playback apparatus that has made such request.

And in fig. 11 paragraphs 178, 182-183 that “in Step S108, the user-side information processing device performs a process for generating or updating the filename conversion table (manifest file (BUMF)) that includes the filename conversion information for the subsequential data that has been obtained” in which the server may transmit such information to the playback apparatus that has made such request.

And in fig. 19 paragraph 218 that “The server 131 performs the process for providing the subsequential data, and performs a process for receiving a filename conversion table (manifest file (BUMF)) that has been generated or updated in the information processing device 100, generating the file tampering validation data (BUSF), and sending the file tampering validation data (BUSF) to the information processing device 100” in which the server may transmit such information to the playback apparatus that has made such request.

From the above passages, Takashima indeed discloses “wherein the step (a) comprises transmitting the fixed information to the playback apparatus according to a request for the channel service received from the playback apparatus” (see fig. 11, 19 ¶¶s 147-148, 156-163, 178, 182-183, 218 for transmitting the fixed information to the
playback apparatus according to a request for the channel service received from the playback apparatus)

NOTE: since the Applicants stated in pages 6-7 that “Applicant respectfully notes that NONE of the cited references teaches these claim features, which have been incorporated from original claim 2” the Examiner notes that the reference of Takashima also teaches the above claim features, and has addressed the Applicants’ assertion accordingly.

In re page 7, the Applicants state that “Claim 8, as amended, recites similar features as those of claim 1, supra, and is thus allowable for at least this reason.”

In response, as discussed above with respect to claim 1, the combination of Yahata and Takashima disclose all the claimed limitations of claim 1.

In re pages 7-8, the Applicants state that “Claims 3-6 and 10-17 depend directly or indirectly from claims 1 and 8, respectively, and are thus allowable for at least this reason. In view of the foregoing, withdrawal of the rejection of claims 1, 3-6, 8 and 10-17 under 35 U.S.C. §103(a) is respectfully requested.”

In response, as discussed above with respect to claim 1, the combination of Yahata and Takashima disclose all the claimed limitations of claim 1.
Claim Rejections - 35 USC § 103

The following is a quotation of 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 of this title, 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 negated by the manner in which the invention was made.

1. Claims 1, 3-6 and 8, 10-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yahata et al. (US 2009/0097821 A1) (hereinafter Yahata), and further in view of Takashima et al. (US 2009/0271411 A1) (hereinafter Takashima).

Re claim 1, Yahata discloses a method for providing a channel service, the method comprising steps of: (a) transmitting a fixed information associated with a streaming data of the channel service to a playback apparatus supporting a BD-J specification (see fig. 22 ¶ 239 “the temporal transition of the total transmission amount is as shown by the solid curve; the total data amount is the sum amount of TS packets belonging to streams that have been allowed in the STN table”), (see ¶s 568 & 577 “the playback apparatus may be caused to perform a BD-J application”), (see fig. 1 ¶s 93-94 “the local storage 200 is a hard disk that is built in the playback apparatus, and is used for storing content distributed from a server of a movie distributor” in which the server is used as the channel service provider for providing content to the playback apparatus) and (see figs. 14 & 16 ¶s 185-186 “a file (00002.mpls) to which extension "mpls" is attached is information that defines a group made by binding up two types of playback paths
called MainPath and Subpath as playlist (PL)” which are fixed information); (b) transmitting a variable information associated with the streaming data to the playback apparatus (see ¶ 426 “AVClips, Clip information making up one pieces of volume data are obtained” in which these are variable information associated with the streaming data); and (c) transmitting the streaming data to the playback apparatus (see figs. 23A-23B ¶ 240 “this indicates that the data amount supplied from the BD-ROM and the local storage is limited to the transmittable amount or less in any window”), wherein the step (a) comprises transmitting the fixed information to the playback apparatus according to a request for the channel service received from the playback apparatus (see ¶ 426 “PlayList information, when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request” in which PlayList information is fixed information)

But fails to explicitly teach wherein the fixed information includes at least one of BUMF information and SF information associated with the streaming data. However, the reference of Takashima explicitly teaches wherein the fixed information includes at least one of BUMF information and SF information associated with the streaming data (see figs. 4, 6, 7, 14-16 ¶s 74-75, 80, 97, 99-102, 106, 112-114, 117-124, 129-131, 135, 139-140, 145, 156, 158, 161, 163, 169-170, 178-186, 189, 194-199, 206-211, 216-221, 227, 230, 233-235, 238-239, 240-242 for BUMF information and SF information)

Therefore, taking the combined teachings of Yahata and Takashima as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature
(SF information) into the system of Yahata at the time the invention was made as taught by Takashima.

One will be motivated to incorporate the feature SF information into the system of Yahata as taught by Takashima for the benefit of implementing a file tampering validation data (e.g., Binding Unit Signature File (BUSF), which is a signature setting file wherein a server private key for providing the substantial data is applied to the data that structures the BUMF in order to enable the performance of strict usage control of the subsequential data (see ¶ 12)

Re claim 3, the combination of Yahata and Takashima as discussed in claim 1 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the step (b) comprises transmitting the variable information to the playback apparatus according to a transmission request for the variable information received from the playback apparatus (see ¶ 426 “AVClips, Clip information making up one pieces of volume data are obtained; ones which will be provided by the BD-ROM are removed from the obtained AVClips, Clip information, and the remaining information is assembled into one file as additional contents by an archiver program” in which these are variable information obtained or received from the playback apparatus)

Re claim 4, the combination of Yahata and Takashima as discussed in claim 3 above discloses all the claim limitations with additional claimed feature taught by Yahata
wherein the variable information includes a clip information corresponding to each of one or more clips included in the streaming data (see ¶ 426 “AVClips, Clip information making up one pieces of volume data are obtained”)

Re claim 5, the combination of Yahata and Takashima as discussed in claim 4 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the step (b) comprises transmitting the clip information to the playback apparatus, and wherein the step (c) comprises transmitting one of the one or more clips corresponding to the clip information to the playback apparatus according to the transmission request (see ¶ 426 “AVClips, Clip information and PlayList information making up one pieces of volume data are obtained; ones which will be provided by the BD-ROM are removed from the obtained AVClips, Clip information and PlayList information, and the remaining information is assembled into one file as additional contents by an archiver program; when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request”)

Re claim 6, the combination of Yahata and Takashima as discussed in claim 4 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the step (b) comprises storing the one or more clips in a circular queue in a storage space (see fig. 9 ¶ 140 “an AVClip that is stored in the local storage and played back with a MainClip is called the “Sub-Clip””) and (see fig. 14 ¶s 168 &
171 “the following information is stored: PlayList information; Clip information; and AVClips”)

Re claim 8, Yahata discloses a method for providing a channel service using a playback apparatus supporting a BD-J specification, the method comprising steps of:
(a) receiving a fixed information associated with a streaming data of the channel service (see fig. 30 ¶ 347 “each of the decoders receives elementary streams”), (see fig. 1 ¶s 93-94 “the local storage 200 is a hard disk that is built in the playback apparatus, and is used for storing content distributed from a server of a movie distributor” in which the server is used as the channel service provider for providing content to the playback apparatus) and (see figs. 14 & 16 ¶s 185-186 “a file (00002.mpls) to which extension ”mpls” is attached is information that defines a group made by binding up two types of playback paths called MainPath and Subpath as playlist (PL)” which are fixed information); (b) configuring the playback apparatus for a playback of the streaming data based on the fixed information (see fig. 12 ¶s 162-163 “the MainPath is a playback path that is defined in terms of a video stream, such as the main video, and an audio stream”); (c) receiving a variable information associated with the streaming data (see fig. 30 ¶ 347 “each of the decoders receives elementary streams”); and (d) playing the streaming data based on the fixed information and the variable information (see fig. 30 ¶s 347 & 349 “each of the decoders receives elementary streams passed through the PID filter 3b and performs from decoding processing to playback processing according to the PCR of Primary TS (STC1 time axis)”), wherein the step (a) comprises receiving the
fixed information from a channel service providing server according to a request for the
channel service included in a user input (see ¶ 426 “when such additional contents
are obtained after these processes, the additional contents are provided to a www
server and sent to playback apparatus upon request”) and (see fig. 30 ¶ 395 “the
operation receiving unit 26 receives specification of an operation made by a user
on the remote controller”)

But fails to explicitly teach wherein the fixed information includes at least one of
BUMF information and SF information. However, the reference of Takashima explicitly
teaches wherein the fixed information includes at least one of BUMF information and SF
information (see figs. 6, 7, 14-16 ¶¶s 74-75, 106, 112-114, 118-124, 129-131, 139, 145,
163, 169-170, 178-186, 189, 194-199, 206-211, 216-221, 227, 230, 233-235, 238-239,
240-242 for BUMF information and SF information)

Therefore, taking the combined teachings of Yahata and Takashima as a whole,
it would have been obvious to one of ordinary skills in the art to incorporate this feature
(SF information) into the system of Yahata at the time the invention was made as taught
by Takashima.

One will be motivated to incorporate the feature SF information into the system of
Yahata as taught by Takashima for the benefit of implementing a file tampering
validation data (e.g., Binding Unit Signature File (BUSF), which is a signature setting file
wherein a server private key for providing the substantial data is applied to the data that
structures the BUMF in order to enable the performance of strict usage control of the
subsequent data (see ¶ 12)
Re claim 10, the combination of Yahata and Takashima as discussed in claim 8 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the step (b) comprises configuring a virtual package for the playback of the streaming data based on the fixed information (see fig. 1 ¶ 94 “a technology called Virtual Package” combines content recorded on the BD-ROM 100 with content stored in the local storage 200 and treats data not recorded on the BD-ROM 100 in the way as if it is recorded on the BD-ROM 100”) and (see ¶ 590 “the BD-ROM playback apparatus may be caused to perform a process of creating Virtual Package”)

Re claim 11, the combination of Yahata and Takashima as discussed in claim 8 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the step (c) comprises receiving the variable information transmitted from a channel service providing server according to a request for the variable information input (see ¶ 426 “when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request”), (see fig. 8 ¶ 123 “TS packets containing an AVClip are subjected to before they are written to the BD-ROM”) and (see fig. 8 ¶ 124 “the TS_extra_header includes Arrival_Time_Stamp that is information indicating the time at which the TS packet is input to the decoder” in which the TS packets include variable information such as AVClips)
Re claim 12, the combination of Yahata and Takashima as discussed in claim 4 above discloses all the claimed limitations of claim 12.

Re claim 13, the combination of Yahata and Takashima as discussed in claim 12 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the step (c) comprises receiving the clip information, and wherein the step (d) comprises playing one of the one or more clips corresponding to the clip information (see fig. 8 ¶ 138 “even if the file extents constituting the AVClip are located discretely on the BD-ROM, TS packets are continuously supplied to the decoder so that the data is read out continuously during the playback”) and (see fig. 9 ¶ 140 “an AVClip that is stored in the local storage and played back with a MainClip is called the "Sub-Clip"”)

Re claim 14, the combination of Yahata and Takashima as discussed in claim 12 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the fixed information includes a playback sequence information on the one or more clips, and wherein the step (d) comprises playing the one or more clips according to the playback sequence information (see fig. 4 ¶ 117 “video and audio streams are stored in a PES packet sequence”), (see fig. 8 ¶ 126 “such ATC_Sequences constitute the AVClip”), (see fig. 10 ¶s 149-150 “the Sequence Info is information regarding one or more STC-Sequences and ATC-Sequences contained in the
AVClip; Program is a group of elementary streams that have in common a time axis for synchronous playback”)

Re claim 15, the combination of Yahata and Takashima as discussed in claim 14 above discloses all the claim limitations with additional claimed feature taught by Yahata comprises (e) storing the one or more clips including the streaming data in a storage space (see fig. 9 ¶ 140 “an AVClip that is stored in the local storage and played back with a MainClip is called the "Sub-Clip"” in which AVClip is digital stream data) and (see fig. 14 ¶s 168 & 171 “the following information is stored: PlayList information; Clip information; and AVClips” in which AVClip is digital stream data)

Re claim 16, the combination of Yahata and Takashima as discussed in claim 15 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the one or more clips stored in the storage space are in a circular queue (see fig. 9 ¶ 140 “an AVClip that is stored in the local storage and played back with a MainClip is called the "Sub-Clip"”) and (see fig. 14 ¶s 168 & 171 “the following information is stored: PlayList information; Clip information; and AVClips”)

Re claim 17, the combination of Yahata and Takashima as discussed in claim 15 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the step (d) comprises reading and playing at least one of the one or more clips
stored in the storage space, the at least one being selected according to a user input
(see fig. 19 ¶ 221 “among elementary streams read from the BD-ROM and the
local storage, ones allowed to be played back”), (see fig. 19 ¶ 224 “the decoding
elementary streams are a video stream, an audio stream, a PG stream and an IG
stream that have been allowed in the STN_table to be played back and have been
selected for simultaneous playback; some decoding elementary streams are read
from the local storage and others are read from the BD-ROM”), (see fig. 30 ¶ 395
“the operation receiving unit 26 receives specification of an operation made by a
user on the remote controller”) and (see ¶ 570 “to create a module manager in the
playback apparatus which selects a title according to the mount of the BD-ROM, a
user operation, or a state of the apparatus”)

2. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable
over Takashima et al. (US 2009/0271411 A1) (hereinafter Takashima), and further
in view of Yahata et al. (US 2009/0097821 A1) (hereinafter Yahata), and further in
view of Chen (US 2008/0244658 A1) (hereinafter Chen).

Re claim 19, Takashima discloses a method for providing a channel service, the
method comprising steps of: by the service providing server, transmitting BUMF
(Binding Unit Manifest File) information, SF (Signature File) information and playlist
information for the service to the playback apparatus (see fig. 1, 11 ¶ 148, 150-152 “in
Step S103, sends this list to the user-side information processing device”), (see
fig. 11 ¶s 156-163 “In Step S106, the server sends, to the user-side information
processing device, data corresponding to the specified content. Specifically,
download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like)) are sent to the user-side information processing device”), (see fig. 11 ¶s 178, 182-183 “in Step S108, the user-side information processing device performs a process for generating or updating the filename conversion table (manifest file (BUMF)) that includes the filename conversion information for the subsequential data that has been obtained”), (see fig. 19 ¶ 218 “The server 131 performs the process for providing the subsequential data, and performs a process for receiving a filename conversion table (manifest file (BUMF)) that has been generated or updated in the information processing device 100, generating the file tampering validation data (BUSF), and sending the file tampering validation data (BUSF) to the information processing device 100”); by the playback apparatus, performing a package update from a disk package to a virtual package, based on the BUMF information, the SF information and the playlist information (see figs. 1, 7-8 ¶s 123-125, 129 “Processes are required to generate or update the manifest file (BUMF) and control data, and to generate or update the file tampering validation data (BUSF), each time this type of subsequential data is obtained”), (see fig. 11 ¶ 161 “The user-side information processing device stores the files of the subsequential data itself, for example, the AVStream, the ClipInfo, the PlayList, and so forth, and then performs the process of generating or updating the download file local control information and the control data such as the downloaded content list”), (see fig.
15 ¶s 170-176 “Next, in the Step S207, three types of information are referenced to generate or update the download file local control information (shown in FIG. 8”), (see fig. 11 ¶s 178, 181-185 “in Step S108, the user-side information processing device performs a process for generating or updating the filename conversion table (manifest file (BUMF)) that includes the filename conversion information for the subsequential data that has been obtained”); by the service providing server, progressively generating clips constituting streaming data and also generating clip information about each clip (see fig. 11 ¶s 156-163 “The user-side information processing device stores the files of the subsequential data itself, for example, the AVStream, the ClipInfo, the PlayList, and so forth, and then performs the process of generating or updating the download file local control information and the control data such as the downloaded content list”); by the playback apparatus, receiving a first clip and first clip information about the first clip from the service providing server (see fig. 11 ¶s 156-163 “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, ClipInfo, or PlayList files, or the like)) are sent to the user-side information processing device”), (see fig. 15 ¶ 170 “allocated as the VFS filenames corresponding to each of the files (the clip information (ClipInfo) file, the clip AV stream (ClipAVStream) file, the play list (PlayList) file, etc.) that structure the subsequential data that is received”); and by
the playback apparatus, receiving a second clip and second clip information about the second clip from the service providing server (see fig. 11 ¶s 156-163 “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like)) are sent to the user-side information processing device”), (see fig. 15 ¶ 170 “allocated as the VFS filenames corresponding to each of the files (the clip information (ClipInfo) file, the clip AV stream (ClipAVStream) file, the play list (PlayList) file, etc.) that structure the subsequential data that is received”)

But fails to explicitly teach and then playing the first clip, and then playing the second clip. However, the reference of Yahata explicitly teaches and then playing the first clip, and then playing the second clip (see ¶ 140 “an AVClip that is stored in the local storage and played back with a MainClip is called the "SubClip"”), (see fig. 12 ¶ 163 “"Clip_information file_name" that indicates the file name of the playback section information of the AVClip to which the IN point and the OUT point of the playback section belong"”), (see figs. 16, 18-19 ¶s 188, 201, 203, 209, 222, 455, 463 “Whereas the Mainpath is a playback path defined for the MainClip which is a main video, the Subpath is a playback path defined for the SubClip which synchronizes with the MainPath”)


Therefore, taking the combined teachings of Takashima and Yahata as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (playback) into the system of Takashima at the time the invention was made as taught by Yahata.

One will be motivated to incorporate the feature playback into the system of Takashima as taught by Yahata for the benefit of implementing an Out-of-MUX framework which is a technology that simultaneously reads a digital stream recorded on a read-only recording medium, such as a BD-ROM, and a digital stream recorded in a local storage, which is a rewritable recording medium, supplies them to a decoder, and then plays back them synchronously in order to improve efficiency (see ¶ 2).

Furthermore, fails to explicitly teach by a playback apparatus, transmitting a request for the channel service selected in a channel list to a channel service providing server; channel, selected channel. However, the reference of Chen explicitly teaches by a playback apparatus, transmitting a request for the channel service selected in a channel list to a channel service providing server; channel, selected channel (see fig. 3 ¶s 40-41 “Process unit 102 is used for responding to service information inquiries, receiving requests from subscriber terminal 200, updating the authorization information of the subscriber terminal, and sending a new channel list to terminal service management unit 201 in subscriber terminal 200”), (see fig. 4 ¶s 45, 51-53 “s402: The IPTV application apparatus receives a request from a
subscriber terminal. s404: The IPTV application apparatus sends a new channel list to the subscriber terminal”)

Therefore, taking the combined teachings of Takashima, Yahata and Chen as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (request) into the system of Takashima at the time the invention was made as taught by Chen.

One will be motivated to incorporate the feature request into the system of Takashima as taught by Chen for the benefit of implementing an IPTV live broadcast service for receiving a request from a subscriber terminal in order to improve efficiency (see ¶s 8-9)

Re claim 20, the combination of Takashima, Yahata and Chen as discussed in claim 19 above discloses all the claim limitations with additional claimed feature taught by Takashima when the BUMF information is configured in a manner that the first clip through an n-th clip are sequentially received, by the service providing server, after generating the n-th clip, configuring subsequent streaming data into another first clip through n-th clip (see fig. 11 ¶s 156-163 “In Step S106, the server sends, to the user-side information processing device, data corresponding to the specified content. Specifically, download data that is selected by the download data file ID in the content list explained above in reference to FIG. 12 (the subsequential data itself, such as subtitles: for example, the AVStream, Clipinfo, or PlayList files, or the like)) are sent to the user-side information processing device”), (see fig. 15 ¶
170 “allocated as the VFS filenames corresponding to each of the files (the clip information (ClipInfo) file, the clip AV stream (ClipAVStream) file, the play list (PlayList) file, etc.) that structure the subsequential data that is received”), (see fig. 11 ¶s 178, 181-185 “in Step S108, the user-side information processing device performs a process for generating or updating the filename conversion table (manifest file (BUMF)) that includes the filename conversion information for the subsequential data that has been obtained”)

But fails to explicitly teach and played. However, the reference of Yahata explicitly teaches and played (see ¶ 140 “an AVClip that is stored in the local storage and played back with a MainClip is called the "SubClip"”), (see fig. 12 ¶ 163 “"Clip_information file_name" that indicates the file name of the playback section information of the AVClip to which the IN point and the OUT point of the playback section belong”), (see figs. 16, 18-19 ¶s 188, 201, 203, 209, 222, 455, 463 “Whereas the MainPath is a playback path defined for the MainClip which is a main video, the Subpath is a playback path defined for the SubClip which synchronizes with the MainPath”)

Therefore, taking the combined teachings of Takashima and Yahata as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (playback) into the system of Takashima at the time the invention was made as taught by Yahata.

Per claim 20, Takashima and Yahata are combined for the same motivation as set forth in claim 19 above.
Furthermore, fails to explicitly teach channel service providing server. However, the reference of Chen explicitly teaches channel service providing server (see fig. 3 ¶s 40-41 “Process unit 102 is used for responding to service information inquiries, receiving requests from subscriber terminal 200, updating the authorization information of the subscriber terminal, and sending a new channel list to terminal service management unit 201 in subscriber terminal 200”), (see fig. 4 ¶s 45, 51-53 “s402: The IPTV application apparatus receives a request from a subscriber terminal. s404: The IPTV application apparatus sends a new channel list to the subscriber terminal”)

Therefore, taking the combined teachings of Takashima, Yahata and Chen as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (channel) into the system of Takashima at the time the invention was made as taught by Chen.

One will be motivated to incorporate the feature request into the system of Takashima as taught by Chen for the benefit of generating a channel list for the subscriber terminal according to the authorization information in order to improve efficiency (see ¶ 11)

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP
§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSE MESA whose telephone number is (571)270-1706. The examiner can normally be reached on Monday Thru Thursday from 8:30am to 6:00pm Est. The examiner can also be reached on alternate Monday Thru Friday from 8:30am to 6:00pm Est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Thai Tran, can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.
For more information about the PAIR system, see http://portal.uspto.gov/external/portal.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/J. M./ 12/05/2012  
Examiner, Art Unit 2484

/Thai Tran/  
Supervisory Patent Examiner, Art Unit 2484
**Notice of References Cited**

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**U.S. PATENT DOCUMENTS**

**FOREIGN PATENT DOCUMENTS**

**NON-PATENT DOCUMENTS**

*Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages*

*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.*

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** CONTINUING DATA ***********************

** FOREIGN APPLICATIONS ***********************
- REPUBLIC OF KOREA 10-2008-0058198 06/20/2008

** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** ** SMALL ENTITY **
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- UNITED STATES

** TITLE **
- Method for providing channel service

** FILING FEE RECEIVED **
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Wonjiang BAEK

Application No. 12/457,508  Group Art Unit: 2484

Confirmation No. 4330

Filed: June 12, 2009  Examiner: Jose MESA

For: METHOD FOR PROVIDING CHANNEL SERVICE

AMENDMENT

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

Sir:


Reconsideration of the claims is respectfully requested. The following remarks are respectfully submitted.
IN THE CLAIMS:

Please CANCEL claims 2 and 9 without prejudice or disclaimer, AMEND claims 1 and 8, and ADD claims 19 and 20, in accordance with the following:

1. (Currently amended) A method for providing a channel service, the method comprising steps of:

   (a) transmitting fixed information associated with streaming data of the channel service to a playback apparatus supporting a BD-J specification;

   (b) transmitting variable information associated with the streaming data to the playback apparatus; and

   (c) transmitting the streaming data to the playback apparatus,

   wherein the fixed information includes at least one of BUMF information and SF information associated with the streaming data,

   wherein the step (a) comprises transmitting the fixed information to the playback apparatus according to a request for the channel service received from the playback apparatus.

2. (Cancelled)

3. (Original) The method in accordance with claim 1, wherein the step (b) comprises transmitting the variable information to the playback apparatus according to a transmission request for the variable information received from the playback apparatus.

4. (Previously presented) The method in accordance with claim 3, wherein the variable information includes clip information corresponding to each of one or more clips included in the streaming data.

5. (Original) The method in accordance with claim 4, wherein the step (b) comprises transmitting the clip information to the playback apparatus, and wherein the step (c) comprises transmitting one of the one or more clips corresponding to the clip information to the playback apparatus according to the transmission request.
6. (Original) The method in accordance with claim 4, wherein the step (b) comprises storing the one or more clips in a circular queue in a storage space.

7. (Cancelled)

8. (Currently amended) A method for providing a channel service using a playback apparatus supporting a BD-J specification, the method comprising steps of:

(a) receiving fixed information associated with streaming data of the channel service;
(b) configuring the playback apparatus for a playback of the streaming data based on the fixed information;
(c) receiving variable information associated with the streaming data; and
(d) playing the streaming data based on the fixed information and the variable information,

wherein the fixed information includes at least one of BUMF information and SF information,

wherein the step (a) comprises receiving the fixed information from a channel service providing server according to a request for the channel service included in a user input.

9. (Cancelled)

10. (Original) The method in accordance with claim 8, wherein the step (b) comprises configuring a virtual package for the playback of the streaming data based on the fixed information.

11. (Original) The method in accordance with claim 8, wherein the step (c) comprises receiving the variable information transmitted from a channel service providing server according to a request for the variable information.
12. (Previously presented) The method in accordance with claim 8, wherein the variable information includes clip information corresponding to each of one or more clips included in the streaming data.

13. (Original) The method in accordance with claim 12, wherein the step (c) comprises receiving the clip information, and wherein the step (d) comprises playing one of the one or more clips corresponding to the clip information.

14. (Previously presented) The method in accordance with claim 12, wherein the fixed information includes playback sequence information on the one or more clips, and wherein the step (d) comprises playing the one or more clips according to the playback sequence information.

15. (Original) The method in accordance with claim 14, further comprises (e) storing the one or more clips including the streaming data in a storage space.

16. (Original) The method in accordance with claim 15, wherein the one or more clips stored in the storage space are in a circular queue.

17. (Original) The method in accordance with claim 15, wherein the step (d) comprises reading and playing at least one of the one or more clips stored in the storage space, the at least one being selected according to a user input.

18. (Cancelled)

19. (New) A method for providing a channel service, the method comprising steps of:

   by a playback apparatus, transmitting a request for the channel service selected in a channel list to a channel service providing server;
by the channel service providing server, transmitting BUMF (Binding Unit Manifest File) information, SF (Signature File) information and playlist information for the selected channel service to the playback apparatus;

by the playback apparatus, performing a package update from a disk package to a virtual package, based on the BUMF information, the SF information and the playlist information;

by the channel service providing server, progressively generating clips constituting streaming data and also generating clip information about each clip;

by the playback apparatus, receiving a first clip and first clip information about the first clip from the channel service providing server and then playing the first clip; and

by the playback apparatus, receiving a second clip and second clip information about the second clip from the channel service providing server and then playing the second clip.

20. (New) The method of claim 19, further comprising, when the BUMF information is configured in a manner that the first clip through an n-th clip are sequentially received and played, by the channel service providing server, after generating the n-th clip, configuring subsequent streaming data into another first clip through n-th clip.
REMARKS

In accordance with the foregoing, claims 1 and 8 have been amended, claims 2 and 9 have been cancelled without prejudice or disclaimer, and claims 19 and 20 have been added. Upon entry of this amendment, claims 1, 3-6, 8, 10-17, 19 and 20 are pending and under consideration. Claims 1 and 8 have incorporated the features of claims 2 and 9. No new matter within the meaning of 35 U.S.C. §132 is presented in this Amendment.

REJECTIONS UNDER 35 U.S.C. §103:

Claims 1-6 and 8-17 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Yahata et al. (U.S. Publication No. 2009/0097821) in view of Takashima et al. (U.S. Publication No. 2009/0271411). Applicants respectfully traverse this rejection.

To establish an obviousness rejection under 35 U.S.C. § 103(a), four factual inquiries must be examined. The four factual inquiries include (a) determining the scope and contents of the prior art; (b) ascertaining the differences between the prior art and the claims in issue; (c) resolving the level of ordinary skill in the pertinent art; and (d) evaluating evidence of secondary consideration. Graham v. John Deere, 383 U.S. 1, 17-18 (1966). In view of these four factors, the analysis supporting a rejection under 35 U.S.C. 103(a) should be made explicit, and should "identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements" in the manner claimed. KSR Int'l. Co. v. Telefex, Inc., 550 U.S. 398 (2007). Furthermore, even if the prior art may be combined, there must be a reasonable expectation of success, and the reference or references, when combined, must disclose or suggest all of the claim limitations. See in re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Claim 1, as amended, recites, inter alia:

(a) transmitting fixed information associated with streaming data of the channel service to a playback apparatus supporting a BD-J specification;

... wherein the step (a) comprises transmitting the fixed information to the playback apparatus according to a request for the channel service received from the playback apparatus. (emphasis added)

Applicant respectfully notes that none of the cited references teaches these claim
features, which have been incorporated from original claim 2. As to claim 2, the Office Action concludes that such claim features are taught by Yahata et al., noting "see ¶ 426 'when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request" (Office Action, page 4, paragraph 3, lines 5-7). Applicant respectfully disagrees with this conclusion at least because the cited paragraph does not describe the "fixed information" as recited in step (a) of claim 1. Specifically, the Examiner is respectfully advised to review the Office Action's another conclusion with respect to step (b) of claim 1, on page 3, paragraph 1, lines 7-9, stating "see ¶ 426 'AVClips, Clip information and PlayList information making up one pieces of volume data are obtained' in which these are variable information associated with the streaming data" (emphasis added). Based on this reasoning, it is clear that paragraph [0426] of Yahata et al. merely describes sending the additional contents to a playback apparatus upon request. Here, in Yahata et al., the additional contents are assembled from remaining information, which are remnant after removing ones that will be provided by the BD-ROM from the obtained AVClips, Clip information and PlayList information, which the Office Action characterizes as teaching the "variable information" as recited in claim 1. See paragraph [0426] of Yahata et al., lines 5-9. "Ones which will be provided by the BD-ROM are removed from the obtained AVClips, Clip information and PlayList information, and the remaining information is assembled into one file as additional contents by an archiver program or the like." No teaching or suggestion is found in Yahata et al. that these additional contents may necessarily include the alleged "fixed information."

The secondary reference, Takashima et al., is cited against the feature of claim 1, "wherein the fixed information includes at least one of BUMF information and SF information associated with the streaming data," but fails to cure the deficiencies of Yahata et al. as noted above. Thus, assuming arguendo Yahata et al. and Takashima et al. may be combined and a reasonable expectation of success exists, this combination still does not teach or suggest at least "wherein the step (a) comprises transmitting the fixed information to the playback apparatus according to a request for the channel service received from the playback apparatus" as recited in claim 1. Accordingly, Applicant respectfully submits that claim 1 is allowable over Yahata et al. and Takashima et al., whether taken alone or in combination.

Claim 8, as amended, recites similar features as those of claim 1, supra, and is thus allowable for at least this reason. Claims 2 and 9 have been cancelled without prejudice or disclaimer, thereby rendering the rejection thereof moot. Claims 3-6 and 10-17 depend directly
or indirectly from claims 1 and 8, respectively, and are thus allowable for at least this reason.

In view of the foregoing, withdrawal of the rejection of claims 1, 3-6, 8 and 10-17 under 35 U.S.C. §103(a) is respectfully requested.

Lastly, new claims 19 and 20 are deemed patentable for at least reasons consistent with the patentability of claims 1 and 8.

CONCLUSION:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

STEIN MCEWEN, LLP

Date: August 22, 2012

By: [Signature]

James G. McEwen
Registration No. 41,983

1400 Eye St., N.W.
Suite 300
Washington, D.C. 20005
Telephone: (202) 216-9505
Facsimile: (202) 216-9510
Electronic Acknowledgement Receipt

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**Warnings:**

**Information:**

| Total Files Size (in bytes) | 888638 |

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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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Since an Official Action set an original due date of August 25, 2012, petition is hereby made for an extension to cover the date this reply is filed for which the requisite fee is enclosed (1 month ($150)); (2 months ($560)); (3 months ($1,270)); (4 months ($1,980)); (5 months ($2,690));

If Notice of Appeal is enclosed, add ($620.00) $ 0.00
If Statutory Disclaimer under Rule 20(d) is enclosed, add fee ($140.00) $ 0.00
Information Disclosure Statement (Rule 1.17(p)) ($180.00) $ 0.00
Total of above Calculations = $ 0.00
Reduction by 50% for filing by small entity (37 CFR 1.9, 1.27 & 1.28) $ 0.00
Reduction by 75% for filing by micro entity (37 CFR 1.23(a)(1)) $ 0.00
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(3) If entry (4) is less than entry (5), entry (6) is "0".
(4) If entry (5) is less than 3, change entry (5) to "3".

**METHOD OF PAYMENT**

☐ Check enclosed as payment. ☐ Credit Card Payment Form, Form PTO-2038 (attached).

☐ Charge "TOTAL FEES DUE" to the Deposit Account No. below.

☒ No payment is enclosed and no charges to the Deposit Account are authorized at this time (unless specifically required to obtain a filing date).

**GENERAL AUTHORIZATION**

☒ If the above-noted "AMOUNT ENCLOSED" is not correct, the Commissioner is hereby authorized to credit any overpayment or charge any additional fees necessary to:

  Deposit Account No. 503333
  Deposit Account Name STEIN MCEWEN, LLP

☒ The Commissioner is also authorized to credit any overpayments or charge any additional fees required under 37 CFR 1.16 (filing fees) or 37 CFR 1.17 (processing fees) during the prosecution of this application, including any related application(s) claiming benefit hereof pursuant to 35 USC § 120 (e.g., continuations/divisionals/CIPs under 37 CFR 1.53(b) and/or continuations/divisionals/CPAs under 37 CFR 1.53(d)) to maintain pendency hereof or of any such related application.

**SUBMITTED BY: STEIN MCEWEN, LLP**

Typed Name James G. McEwen Reg. No. 41,983

Signature

Date August 23, 2012
**PATENT APPLICATION FEE DETERMINATION RECORD**

**APPLICATION AS FILED – PART I**

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*** If the “Highest Number Previously Paid For” in THIS SPACE is less than 3 enter “3”.

The “Highest Number Previously Paid For” (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
[ANITA JOHNSON]

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

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

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

docketing@smiplaw.com
Office Action Summary

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.

If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.

Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☑ Responsive to communication(s) filed on 27 February 2012.
2a) ☐ This action is FINAL.
2b) ☑ This action is non-final.
3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex part Quayle, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5) ☑ Claim(s) 1-6 and 8-17 is/are pending in the application.
   5a) Of the above claim(s) _____ is/are withdrawn from consideration.
6) ☐ Claim(s) _____ is/are allowed.
7) ☑ Claim(s) 1-6 and 8-17 is/are rejected.
8) ☐ Claim(s) _____ is/are objected to.
9) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

10) ☐ The specification is objected to by the Examiner.
11) ☑ The drawing(s) filed on _____ is/are: a) ☑ accepted or b) ☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All  b) ☐ Some * c) ☐ None of:
   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)
2) ☐ Notice of Draftsman’s Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date ______.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date ______.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: ______.
DETAILED ACTION

Response to Arguments

Applicant’s arguments filed on 02/27/2012 with respect to claims 1-6 and 8-17 have been fully considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 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 of this title, 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 negated by the manner in which the invention was made.

1. Claims 1-6 and 8-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yahata et al. (US 2009/0097821 A1) (hereinafter Yahata), and further in view of Takashima et al. (US 2009/0271411 A1) (Takashima).

Re claim 1, Yahata discloses a method for providing a channel service, the method comprising steps of: (a) transmitting a fixed information associated with a streaming data of the channel service to a playback apparatus supporting a BD-J specification (see fig. 22 ¶ 239 “the temporal transition of the total transmission amount is as shown by the solid curve; the total data amount is the sum amount of TS packets belonging to streams that have been allowed in the STN table”), (see ¶s 568 & 577 “the playback apparatus may be caused to perform a BD-J application”), (see fig. 1 ¶s 93-94 “the local storage 200 is a hard disk that is built in the playback apparatus, and is used for storing content distributed from a
server of a movie distributor” in which the server is used as the channel service provider for providing content to the playback apparatus) and (see figs. 14 & 16 ¶s 185-186 “a file (00002.mpls) to which extension "mpls" is attached is information that defines a group made by binding up two types of playback paths called MainPath and Subpath as playlist (PL)” which are fixed information); (b) transmitting a variable information associated with the streaming data to the playback apparatus (see ¶ 426 “AVClips, Clip information and PlayList information making up one pieces of volume data are obtained” in which these are variable information associated with the streaming data); and (c) transmitting the streaming data to the playback apparatus (see figs. 23A-23B ¶ 240 “this indicates that the data amount supplied from the BD-ROM and the local storage is limited to the transmittable amount or less in any window”)

But fails to explicitly teach wherein the fixed information includes at least one of BUMF information and SF information associated with the streaming data. However, the reference of Takashima explicitly teaches wherein the fixed information includes at least one of BUMF information and SF information associated with the streaming data (see figs. 4, 6, 7, 14-16 ¶s 74-75, 80, 97, 99-102, 106, 112-114, 117-124, 129-131, 135, 139-140, 145, 156, 158, 161, 163, 169-170, 178-186, 189, 194-199, 206-211, 216-221, 227, 230, 233-235, 238-239, 240-242 for BUMF information and SF information)

Therefore, taking the combined teachings of Yahata and Takashima as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature
(SF information) into the system of Yahata at the time the invention was made as taught by Takashima.

One will be motivated to incorporate the feature SF information into the system of Yahata as taught by Takashima for the benefit of implementing a file tampering validation data (e.g., Binding Unit Signature File (BUSF), which is a signature setting file wherein a server private key for providing the substantial data is applied to the data that structures the BUMF in order to enable the performance of strict usage control of the subsequential data (see ¶ 12)

Re claim 2, the combination of Yahata and Takashima as discussed in claim 1 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the step (a) comprises transmitting the fixed information to the playback apparatus according to a request for the channel service received from the playback apparatus (see ¶ 426 “when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request”)

Re claim 3, the combination of Yahata and Takashima as discussed in claim 1 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the step (b) comprises transmitting the variable information to the playback apparatus according to a transmission request for the variable information received from the playback apparatus (see ¶ 426 “AVClips, Clip information and PlayList
information making up one pieces of volume data are obtained; ones which will be provided by the BD-ROM are removed from the obtained AVClips, Clip information and PlayList information, and the remaining information is assembled into one file as additional contents by an archiver program” in which these are variable information obtained or received from the playback apparatus)

Re claim 4, the combination of Yahata and Takashima as discussed in claim 3 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the variable information includes a clip information corresponding to each of one or more clips included in the streaming data (see ¶ 426 “AVClips, Clip information and PlayList information making up one pieces of volume data are obtained”)

Re claim 5, the combination of Yahata and Takashima as discussed in claim 4 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the step (b) comprises transmitting the clip information to the playback apparatus, and wherein the step (c) comprises transmitting one of the one or more clips corresponding to the clip information to the playback apparatus according to the transmission request (see ¶ 426 “AVClips, Clip information and PlayList information making up one pieces of volume data are obtained; ones which will be provided by the BD-ROM are removed from the obtained AVClips, Clip information and PlayList information, and the remaining information is assembled
into one file as additional contents by an archiver program; when such additional
contents are obtained after these processes, the additional contents are provided
to a www server and sent to playback apparatus upon request”)

Re claim 6, the combination of Yahata and Takashima as discussed in claim 4
above discloses all the claim limitations with additional claimed feature taught by Yahata
wherein the step (b) comprises storing the one or more clips in a circular queue in a
storage space (see Fig. 9 ¶ 140 “an AVClip that is stored in the local storage and
played back with a MainClip is called the "Sub-Clip"”) and (see fig. 14 ¶s 168 &
171 “the following information is stored: PlayList information; Clip information;
and AVClips”)

Re claim 8, Yahata discloses a method for providing a channel service using a
playback apparatus supporting a BD-J specification, the method comprising steps of:
(a) receiving a fixed information associated with a streaming data of the channel
service (see fig. 30 ¶ 347 “each of the decoders receives elementary streams”),
(see fig. 1 ¶s 93-94 “the local storage 200 is a hard disk that is built in the
playback apparatus, and is used for storing content distributed from a server of a
movie distributor” in which the server is used as the channel service provider for
providing content to the playback apparatus) and (see figs. 14 & 16 ¶s 185-186 “a
file (00002.mpls) to which extension "mpls" is attached is information that defines
a group made by binding up two types of playback paths called MainPath and
Subpath as playlist (PL)” which are fixed information); (b) configuring the playback
apparatus for a playback of the streaming data based on the fixed information (see fig. 12 ¶s 162-163 “the MainPath is a playback path that is defined in terms of a video stream, such as the main video, and an audio stream”); (c) receiving a variable information associated with the streaming data (see fig. 30 ¶ 347 “each of the decoders receives elementary streams”); and (d) playing the streaming data based on the fixed information and the variable information (see fig. 30 ¶s 347 & 349 “each of the decoders receives elementary streams passed through the PID filter 3b and performs from decoding processing to playback processing according to the PCR of Primary TS (STC1 time axis”)

But fails to explicitly teach wherein the fixed information includes at least one of BUMF information and SF information. However, the reference of Takashima explicitly teaches wherein the fixed information includes at least one of BUMF information and SF information (see figs. 6, 7, 14-16 ¶s 74-75, 106, 112-114, 118-124, 129-131, 139, 145, 163, 169-170, 178-186, 189, 194-199, 206-211, 216-221, 227, 230, 233-235, 238-239, 240-242 for BUMF information and SF information)

Therefore, taking the combined teachings of Yahata and Takashima as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature (SF information) into the system of Yahata at the time the invention was made as taught by Takashima.

One will be motivated to incorporate the feature SF information into the system of Yahata as taught by Takashima for the benefit of implementing a file tampering validation data (e.g., Binding Unit Signature File (BUSF), which is a signature setting file
wherein a server private key for providing the substantial data is applied to the data that structures the BUMF in order to enable the performance of strict usage control of the subsequent data (see ¶ 12)

**Re claim 9**, the combination of Yahata and Takashima as discussed in claim 8 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the step (a) comprises receiving the fixed information from a channel service providing server according to a request for the channel service included in a user input (see ¶ 426 “when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request”) and (see fig. 30 ¶ 395 “the operation receiving unit 26 receives specification of an operation made by a user on the remote controller”)

**Re claim 10**, the combination of Yahata and Takashima as discussed in claim 8 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the step (b) comprises configuring a virtual package for the playback of the streaming data based on the fixed information (see fig. 1 ¶ 94 “a technology called “Virtual Package” combines content recorded on the BD-ROM 100 with content stored in the local storage 200 and treats data not recorded on the BD-ROM 100 in the way as if it is recorded on the BD-ROM 100”) and (see ¶ 590 “the BD-ROM playback apparatus may be caused to perform a process of creating Virtual Package”)

Re claim 11, the combination of Yahata and Takashima as discussed in claim 8 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the step (c) comprises receiving the variable information transmitted from a channel service providing server according to a request for the variable information input (see ¶ 426 “when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request”), (see fig. 8 ¶ 123 “TS packets containing an AVClip are subjected to before they are written to the BD-ROM”) and (see fig. 8 ¶ 124 “the TS_extra_header includes Arrival_Time_Stamp that is information indicating the time at which the TS packet is input to the decoder” in which the TS packets include variable information such as AVClips)

Re claim 12, the combination of Yahata and Takashima as discussed in claim 4 above discloses all the claimed limitations of claim 12.

Re claim 13, the combination of Yahata and Takashima as discussed in claim 12 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the step (c) comprises receiving the clip information, and wherein the step (d) comprises playing one of the one or more clips corresponding to the clip information (see fig. 8 ¶ 138 “even if the file extents constituting the AVClip are located discretely on the BD-ROM, TS packets are continuously supplied to the decoder so that the data is read out continuously during the playback”) and (see fig. 9 ¶
140 “an AVClip that is stored in the local storage and played back with a MainClip is called the "Sub-Clip"”

Re claim 14, the combination of Yahata and Takashima as discussed in claim 12 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the fixed information includes a playback sequence information on the one or more clips, and wherein the step (d) comprises playing the one or more clips according to the playback sequence information (see fig. 4 ¶ 117 “video and audio streams are stored in a PES packet sequence”), (see fig. 8 ¶ 126 “such ATC_Sequences constitute the AVClip”), (see fig. 10 ¶s 149-150 “the Sequence Info is information regarding one or more STC-Sequences and ATC-Sequences contained in the AVClip; Program is a group of elementary streams that have in common a time axis for synchronous playback”)

Re claim 15, the combination of Yahata and Takashima as discussed in claim 14 above discloses all the claim limitations with additional claimed feature taught by Yahata comprises (e) storing the one or more clips including the streaming data in a storage space (see fig. 9 ¶ 140 “an AVClip that is stored in the local storage and played back with a MainClip is called the "Sub-Clip"” in which AVClip is digital stream data) and (see fig. 14 ¶s 168 & 171 “the following information is stored: PlayList information; Clip information; and AVClips” in which AVClip is digital stream data)
Re claim 16, the combination of Yahata and Takashima as discussed in claim 15 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the one or more clips stored in the storage space are in a circular queue (see fig. 9 ¶ 140 “an AVClip that is stored in the local storage and played back with a MainClip is called the "Sub-Clip"”) and (see fig. 14 ¶s 168 & 171 “the following information is stored: PlayList information; Clip information; and AVClips”)

Re claim 17, the combination of Yahata and Takashima as discussed in claim 15 above discloses all the claim limitations with additional claimed feature taught by Yahata wherein the step (d) comprises reading and playing at least one of the one or more clips stored in the storage space, the at least one being selected according to a user input (see fig. 19 ¶ 221 “among elementary streams read from the BD-ROM and the local storage, ones allowed to be played back”), (see fig. 19 ¶ 224 “the decoding elementary streams are a video stream, an audio stream, a PG stream and an IG stream that have been allowed in the STN_table to be played back and have been selected for simultaneous playback; some decoding elementary streams are read from the local storage and others are read from the BD-ROM”), (see fig. 30 ¶ 395 “the operation receiving unit 26 receives specification of an operation made by a user on the remote controller”) and (see ¶ 570 “to create a module manager in the playback apparatus which selects a title according to the mount of the BD-ROM, a user operation, or a state of the apparatus”
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSE MESA whose telephone number is (571)270-1706. The examiner can normally be reached on Monday Thru Thursday from 8:30am to 6:00pm Est. The examiner can also be reached on alternate Monday Thru Friday from 8:30am to 6:00pm Est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran, can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://portal.uspto.gov/external/portal. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/J. M./
Examiner, Art Unit 2484

05/07/2012

/Thai Tran/
Supervisory Patent Examiner, Art Unit 2484
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### Search Notes

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** APPLICANTS **
- Wonjang Baek, Seongnam-si, KOREA, REPUBLIC OF;
- John Kim, Seoul, KOREA, REPUBLIC OF;
- Seong Baek Lee, Seoul, KOREA, REPUBLIC OF;

** CONTINUING DATA ******************

** FOREIGN APPLICATIONS ******************
- REPUBLIC OF KOREA 10-2008-0058198 06/20/2008

** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** ** SMALL ENTITY **
- 06/30/2009

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** ADDRESS **
- STEIN MCEWEN, LLP
- 1400 EYE STREET, NW
- SUITE 300
- WASHINGTON, DC 20005
- UNITED STATES

** TITLE **
- Method for providing channel service

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Wonjang BAEK

Application No. 12/457,508

Confirmation No. 4330

Filed: June 12, 2009

For: METHOD FOR PROVIDING CHANNEL SERVICE

AMENDMENT

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

Sir:

This is in response to the Office Action mailed October 27, 2011, and having a period for response set to expire on January 27, 2012.

A petition for a 1-month extension of time is made herein and the appropriate fee is enclosed, extending the due date to February 27, 2012.

Reconsideration of the claims is respectfully requested. The following remarks are respectfully submitted.
IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with strikethrough. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please CANCEL claims 7 and 18, and AMEND claims 1 and 8 in accordance with the following:

1. (Currently amended) A method for providing a channel service, the method comprising steps of:
   
   (a) transmitting a fixed information associated with a streaming data of the channel service to a playback apparatus supporting a BD-J specification;
   
   (b) transmitting a variable information associated with the streaming data to the playback apparatus; and
   
   (c) transmitting the streaming data to the playback apparatus,

   wherein the fixed information includes at least one of BUMF information and SF information associated with the streaming data.

2. (Original) The method in accordance with claim 1, wherein the step (a) comprises transmitting the fixed information to the playback apparatus according to a request for the channel service received from the playback apparatus.

3. (Original) The method in accordance with claim 1, wherein the step (b) comprises transmitting the variable information to the playback apparatus according to a transmission request for the variable information received from the playback apparatus.

4. (Currently amended) The method in accordance with claim 3, wherein the variable information includes a clip information corresponding to each of one or more clips
included in the streaming data.

5. (Original) The method in accordance with claim 4, wherein the step (b) comprises transmitting the clip information to the playback apparatus, and wherein the step (c) comprises transmitting one of the one or more clips corresponding to the clip information to the playback apparatus according to the transmission request.

6. (Original) The method in accordance with claim 4, wherein the step (b) comprises storing the one or more clips in a circular queue in a storage space.

7. (Cancelled)

8. (Currently amended) A method for providing a channel service using a playback apparatus supporting a BD-J specification, the method comprising steps of:

(a) receiving a fixed information associated with a streaming data of the channel service;

(b) configuring the playback apparatus for a playback of the streaming data based on the fixed information;

(c) receiving a variable information associated with the streaming data; and

(d) playing the streaming data based on the fixed information and the variable information,

wherein the fixed information includes at least one of BUMF information and SF information.

9. (Original) The method in accordance with claim 8, wherein the step (a) comprises receiving the fixed information from a channel service providing server according to a request for the channel service included in a user input.
10. (Original) The method in accordance with claim 8, wherein the step (b) comprises configuring a virtual package for the playback of the streaming data based on the fixed information.

11. (Original) The method in accordance with claim 8, wherein the step (c) comprises receiving the variable information transmitted from a channel service providing server according to a request for the variable information.

12. (Currently amended) The method in accordance with claim 8, wherein the variable information includes a clip information corresponding to each of one or more clips included in the streaming data.

13. (Original) The method in accordance with claim 12, wherein the step (c) comprises receiving the clip information, and wherein the step (d) comprises playing one of the one or more clips corresponding to the clip information.

14. (Currently amended) The method in accordance with claim 12, wherein the fixed information includes a playback sequence information on the one or more clips, and wherein the step (d) comprises playing the one or more clips according to the playback sequence information.

15. (Original) The method in accordance with claim 14, further comprises (e) storing the one or more clips including the streaming data in a storage space.

16. (Original) The method in accordance with claim 15, wherein the one or more clips stored in the storage space are in a circular queue.

17. (Original) The method in accordance with claim 15, wherein the step (d)
comprises reading and playing at least one of the one or more clips stored in the storage space, the at least one being selected according to a user input.

18. (Cancelled)
REMARKS

In accordance with the foregoing, claims 1, 4, 8, 12, and 14 have been amended, claims 7 and 18 have been cancelled without prejudice or disclaimer, and claims 1-6 and 8-17 are pending and under consideration. Claims 1 and 8 have been amended to correct informalities and incorporate the features of claims 7 and 18, with modifications. Claims 4, 12, and 14 have been amended to correct informalities. No new matter is presented in this Amendment.

REJECTIONS UNDER 35 U.S.C. §102:

Claims 1-18 are rejected under 35 U.S.C. §102(e) as being anticipated by Yahata et al. (U.S. Publication No. 2009/0097821). Applicants traverse this rejection for at least the following reasons.


Claim 1, as amended, recites, inter alia:

(a) transmitting fixed information associated with streaming data of the channel service to a playback apparatus supporting a BD-J specification;

... wherein the fixed information includes at least one of BUMF information and SF information associated with the streaming data. (emphasis added)

These claim features were recited in original claim 7, now cancelled, and have been incorporated into independent claim 1, with modifications. In original claim 7, it was recited that “the fixed information includes at least one of a BUMF information, an SF information and a
playlist information associated with the streaming data." The Office Action contended the anticipation of claim 7 over Yahata et al. based on the alleged disclosure of the "playlist," but failed to identify if the reference also discloses "BUMF information" or "SF information." In view of its teachings, Applicants respectfully note that Yahata et al. actually discloses neither "BUMF information" nor "SF information." Thus, it is clear that Yahata et al. fails to teach "transmitting a fixed information associated with streaming data of the channel service to a playback apparatus supporting a BD-J specification ... wherein the fixed information includes at least one of BUMF information and SF information associated with the streaming data," as recited in claim 1.

Since Yahata et al. fails to disclose each and every feature recited in claim 1, it does not anticipate the claim. Independent claim 8 recites the features similar to those recited in claim 1 as discussed above, and is thus allowable for at least this reason. Claims 2-6 and 9-17 depend directly or indirectly from claims 1 and 8, respectively, and are thus allowable for at least this reason. Claims 7 and 18 have been cancelled without prejudice or disclaimer, thereby rendering the rejection thereof moot.

In view of the foregoing, withdrawal of the rejection of claims 1-7 and 8-17 under 35 U.S.C. §102(e) are respectfully requested.
CONCLUSION:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

STEIN MCEWEN, LLP

Date: February 27, 2012

By: _______________
Sungyeop Chung
Registration No. 64,130

1400 Eye St., N.W.
Suite 300
Washington, D.C. 20005
Telephone: (202) 216-9505
Facsimile: (202) 216-9510
# Electronic Patent Application Fee Transmittal

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**Title of Invention:** Method for providing channel service

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### Electronic Acknowledgement Receipt

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**Application Number:** 12457508  
**International Application Number:**  
**Confirmation Number:** 4330

**Title of Invention:** Method for providing channel service

**First Named Inventor/Applicant Name:** Wonjang Baek  
**Customer Number:** 49455  
**Filer:** Sungyeop Chung/Natasha Duarte  
**Filer Authorized By:** Sungyeop Chung  
**Attorney Docket Number:** 0293.1013  
**Receipt Date:** 27-FEB-2012  
**Filing Date:** 12-JUN-2009  
**Time Stamp:** 10:39:20  
**Application Type:** Utility under 35 USC 111(a)

### Payment Information:

- **Submitted with Payment:** yes  
- **Payment Type:** Credit Card  
- **Payment was successfully received in RAM:** $75  
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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.
REPLY/AMENDMENT
FEE TRANSMITTAL

AMOUNT ENCLOSED $75.00

EXAMINER NAME Jose Mesa

FEE CALCULATION

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Since an Official Action set an original due date of January 27, 2012, petition is hereby made for an extension to cover the date this reply is filed for which the requisite fee is enclosed (1 month ($150)); (2 months ($560)); (3 months ($1,270)); (4 months ($1,880)); (5 months ($2,690): $150.00

If Notice of Appeal is enclosed, add ($620.00)

If Statutory Disclaimer under Rule 20(d) is enclosed, add fee ($140.00)

Information Disclosure Statement (Rule 1.17(p)) ($180.00)

Total of above Calculations $150.00

Reduction by 50% for filing by small entity (37 CFR 1.9, 1.27 & 1.28) -$75.00

Reduction by 75% for filing by micro entity (37 CFR 1.23(a)(1))

TOTAL FEES DUE $75.00

METHOD OF PAYMENT

☐ Check enclosed as payment. ☒ Credit Card Payment Form, Form PTO-2038(attached).

☐ Charge "TOTAL FEES DUE" to the Deposit Account No. below.

☐ No payment is enclosed and no charges to the Deposit Account are authorized at this time (unless specifically required to obtain a filing date).

GENERAL AUTHORIZATION

☒ If the above-noted "AMOUNT ENCLOSED" is not correct, the Commissioner is hereby authorized to credit any overpayment or charge any additional fees necessary to:

Deposit Account No. 503333
Deposit Account Name STEIN MCEWEN, LLP

☒ The Commissioner is also authorized to credit any overpayments or charge any additional fees required under 37 CFR 1.16 (filing fees) or 37 CFR 1.17 (processing fees) during the prosecution of this application, including any related application(s) claiming benefit hereof pursuant to 35 USC § 120 (e.g., continuations/divisionals/CIPs under 37 CFR 1.53(b) and/or continuations/divisionals/CPAs under 37 CFR 1.53(d)) to maintain pendency hereof or of any such related application.

SUBMITTED BY: STEIN MCEWEN, LLP

Typed Name Sungyeop Chung Reg. No. 64,130

Signature Sungyeop Date February 27, 2012
**PATENT APPLICATION FEE DETERMINATION RECORD**

**APPLICATION AS FILED – PART I**

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If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 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(h).

**MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))**

* If the difference in column 1 is less than zero, enter “0” in column 2.

**APPLICATION AS AMENDED – PART II**

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**APPLICATION SIZE FEE (37 CFR 1.16(s))**

**FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))**

**LEGAL INSTRUMENT EXAMINER:**

ROLITA WIMBUSCH

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

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

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

docketing@smiplaw.com
Office Action Summary

Application No. 12/457,508
Applicant(s) BAEK ET AL.

Examiner JOSE MESA
Art Unit 2484

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ❑ Responsive to communication(s) filed on 12 June 2009.

2a)☐ This action is FINAL.
2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ______; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☒ Claim(s) 1-18 is/are pending in the application.

5a) ☐ Of the above claim(s) ______ is/are withdrawn from consideration.

6)☐ Claim(s) ______ is/are withdrawn.

7)☐ Claim(s) 1-18 is/are rejected.

8)☐ Claim(s) ______ is/are objected to.

9)☐ Claim(s) ______ are subject to restriction and/or election requirement.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☒ The drawing(s) filed on ______ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

12)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

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)
2)☐ Notice of Draftsperson’s Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date ____.
4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date ____.
5)☐ Notice of Informal Patent Application
6)☐ Other: ____.
DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Yahata et al. (US 2009/0097821 A1) (hereinafter Yahata).

Re claim 1, Yahata discloses a method for providing a channel service, the method comprising steps of: (a) transmitting a fixed information associated with a streaming data of the channel service to a playback apparatus supporting a BD-J specification (see fig. 22 ¶ 239 “the temporal transition of the total transmission amount is as shown by the solid curve; the total data amount is the sum amount of TS packets belonging to streams that have been allowed in the STN table”), (see ¶s 568 & 577 “the playback apparatus may be caused to perform a BD-J application”), (see fig. 1 ¶s 93-94 “the local storage 200 is a hard disk that is built in the playback apparatus, and is used for storing content distributed from a server of a movie distributor” in which the server is used as the channel service provider for providing content to the playback apparatus) and (see figs. 14 & 16
¶s 185-186 “a file (00002.mpls) to which extension "mpls" is attached is information that defines a group made by binding up two types of playback paths called MainPath and Subpath as playlist (PL)” which are fixed information); (b) transmitting a variable information associated with the streaming data to the playback apparatus (see ¶ 426 “AVClips, Clip information and PlayList information making up one pieces of volume data are obtained” in which these are variable information associated with the streaming data); and (c) transmitting the streaming data to the playback apparatus (see figs. 23A-23B ¶ 240 “this indicates that the data amount supplied from the BD-ROM and the local storage is limited to the transmittable amount or less in any window”)

Re claim 2, Yahata as discussed in claim 1 above discloses all the claim limitations with additional claim feature wherein the step (a) comprises transmitting the fixed information to the playback apparatus according to a request for the channel service received from the playback apparatus (see ¶ 426 “when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request”)

Re claim 3, Yahata as discussed in claim 1 above discloses all the claim limitations with additional claim feature wherein the step (b) comprises transmitting the variable information to the playback apparatus according to a transmission request for the variable information received from the playback apparatus (see ¶ 426 “AVClips,
Clip information and PlayList information making up one pieces of volume data are obtained; ones which will be provided by the BD-ROM are removed from the obtained AVClips, Clip information and PlayList information, and the remaining information is assembled into one file as additional contents by an archiver program” in which these are variable information obtained or received from the playback apparatus)

**Re claim 4**, Yahata as discussed in claim 3 above discloses all the claim limitations with additional claim feature wherein the variable information includes a clip information corresponding to each of one or more clips included in the streaming data (see ¶ 426 “AVClips, Clip information and PlayList information making up one pieces of volume data are obtained”)

**Re claim 5**, Yahata as discussed in claim 4 above discloses all the claim limitations with additional claim feature wherein the step (b) comprises transmitting the clip information to the playback apparatus, and wherein the step (c) comprises transmitting one of the one or more clips corresponding to the clip information to the playback apparatus according to the transmission request (see ¶ 426 “AVClips, Clip information and PlayList information making up one pieces of volume data are obtained; ones which will be provided by the BD-ROM are removed from the obtained AVClips, Clip information and PlayList information, and the remaining information is assembled into one file as additional contents by an archiver
program; when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request”)

**Re claim 6**, Yahata as discussed in claim 4 above discloses all the claim limitations with additional claim feature wherein the step (b) comprises storing the one or more clips in a circular queue in a storage space ([see fig. 9 ¶ 140 “an AVClip that is stored in the local storage and played back with a MainClip is called the "Sub-Clip"”)](see fig. 14 ¶s 168 & 171 “the following information is stored: PlayList information; Clip information; and AVClips”)

**Re claim 7**, Yahata as discussed in claim 1 above discloses all the claim limitations with additional claim feature wherein the fixed information includes at least one of a BUMF information, an SF information and a playlist information associated with the streaming data ([see figs. 14 & 16 ¶s 185-186 “a file (00002.mpls) to which extension "mpls" is attached is information that defines a group made by binding up two types of playback paths called MainPath and Subpath as playlist (PL)”](see fig. 27 ¶ 575 “it is preferable that the contents recorded in the BD-ROM and local storage be encoded using the Advanced Access Content (AACS), a signature information be attached thereto, and a use authorized be specified in a permission file”))
Re claim 8, Yahata discloses a method for providing a channel service using a playback apparatus supporting a BD-J specification, the method comprising steps of:

(a) receiving a fixed information associated with a streaming data of the channel service (see fig. 30 ¶ 347 “each of the decoders receives elementary streams”), (see fig. 1 ¶s 93-94 “the local storage 200 is a hard disk that is built in the playback apparatus, and is used for storing content distributed from a server of a movie distributor” in which the server is used as the channel service provider for providing content to the playback apparatus) and (see figs. 14 & 16 ¶s 185-186 “a file (00002.mpls) to which extension "mpls" is attached is information that defines a group made by binding up two types of playback paths called MainPath and Subpath as playlist (PL)” which are fixed information); (b) configuring the playback apparatus for a playback of the streaming data based on the fixed information (see fig. 12 ¶s 162-163 “the MainPath is a playback path that is defined in terms of a video stream, such as the main video, and an audio stream”); (c) receiving a variable information associated with the streaming data (see fig. 30 ¶ 347 “each of the decoders receives elementary streams”); and (d) playing the streaming data based on the fixed information and the variable information (see fig. 30 ¶s 347 & 349 “each of the decoders receives elementary streams passed through the PID filter 3b and performs from decoding processing to playback processing according to the PCR of Primary TS (STC1 time axis)"
**Re claim 9**, Yahata as discussed in claim 8 above discloses all the claim limitations with additional claim feature wherein the step (a) comprises receiving the fixed information from a channel service providing server according to a request for the channel service included in a user input *(see ¶ 426 “when such additional contents are obtained after these processes, the additional contents are provided to a www server and sent to playback apparatus upon request”)* and *(see fig. 30 ¶ 395 “the operation receiving unit 26 receives specification of an operation made by a user on the remote controller”)*

**Re claim 10**, Yahata as discussed in claim 8 above discloses all the claim limitations with additional claim feature wherein the step (b) comprises configuring a virtual package for the playback of the streaming data based on the fixed information *(see fig. 1 ¶ 94 “a technology called “Virtual Package” combines content recorded on the BD-ROM 100 with content stored in the local storage 200 and treats data not recorded on the BD-ROM 100 in the way as if it is recorded on the BD-ROM 100”)* and *(see ¶ 590 “the BD-ROM playback apparatus may be caused to perform a process of creating Virtual Package”)*

**Re claim 11**, Yahata as discussed in claim 8 above discloses all the claim limitations with additional claim feature wherein the step (c) comprises receiving the variable information transmitted from a channel service providing server according to a request for the variable information input *(see ¶ 426 “when such additional*
contents are obtained after these processes, the additional contents are provided
to a www server and sent to playback apparatus upon request”), (see fig. 8 ¶ 123
“TS packets containing an AVClip are subjected to before they are written to the
BD-ROM”) and (see fig. 8 ¶ 124 “the TS_extra_header includes
Arrival_Time_Stamp that is information indicating the time at which the TS packet
is input to the decoder” in which the TS packets include variable information
such as AVClips)

Re claim 12, Yahata as discussed in claim 4 above discloses all the claimed
limitations of claim 12.

Re claim 13, Yahata as discussed in claim 12 above discloses all the claim
limitations with additional claim feature wherein the step (c) comprises receiving
the clip information, and wherein the step (d) comprises playing one of the one or more
clips corresponding to the clip information (see fig. 8 ¶ 138 “even if the file extents
constituting the AVClip are located discretely on the BD-ROM, TS packets are
continuously supplied to the decoder so that the data is read out continuously
during the playback”) and (see fig. 9 ¶ 140 “an AVClip that is stored in the local
storage and played back with a MainClip is called the "Sub-Clip"”)

Re claim 14, Yahata as discussed in claim 12 above discloses all the claim
limitations with additional claim feature wherein the fixed information includes a
playback sequence information on the one or more clips, and wherein the step (d)
comprises playing the one or more clips according to the playback sequence
information (see fig. 4 ¶ 117 “video and audio streams are stored in a PES packet
sequence”), (see fig. 8 ¶ 126 “such ATC-Sequences constitute the AVClip”), (see
fig. 10 ¶s 149-150 “the Sequence Info is information regarding one or more STC-
Sequences and ATC-Sequences contained in the AVClip; Program is a group of
elementary streams that have in common a time axis for synchronous playback”)

**Re claim 15**, Yahata as discussed in claim 14 above discloses all the claim
limitations with additional claim feature comprises (e) storing the one or more clips
including the streaming data in a storage space (see fig. 9 ¶ 140 “an AVClip that is
stored in the local storage and played back with a MainClip is called the "Sub-
Clip"” in which AVClip is digital stream data) and (see fig. 14 ¶s 168 & 171 “the
following information is stored: PlayList information; Clip information; and
AVClips” in which AVClip is digital stream data)

**Re claim 16**, Yahata as discussed in claim 15 above discloses all the claim
limitations with additional claim feature wherein the one or more clips stored in
the storage space are in a circular queue (see fig. 9 ¶ 140 “an AVClip that is stored
in the local storage and played back with a MainClip is called the "Sub-Clip"” ) and
(see fig. 14 ¶s 168 & 171 “the following information is stored: PlayList
information; Clip information; and AVClips” )
Re claim 17, Yahata as discussed in claim 15 above discloses all the claim limitations with additional claim feature wherein the step (d) comprises reading and playing at least one of the one or more clips stored in the storage space, the at least one being selected according to a user input (see fig. 19 ¶ 221 “among elementary streams read from the BD-ROM and the local storage, ones allowed to be played back”), (see fig. 19 ¶ 224 “the decoding elementary streams are a video stream, an audio stream, a PG stream and an IG stream that have been allowed in the STN_table to be played back and have been selected for simultaneous playback; some decoding elementary streams are read from the local storage and others are read from the BD-ROM”), (see fig. 30 ¶ 395 “the operation receiving unit 26 receives specification of an operation made by a user on the remote controller”) and (see ¶ 570 “to create a module manager in the playback apparatus which selects a title according to the mount of the BD-ROM, a user operation, or a state of the apparatus”)

Re claim 18, Yahata as discussed in claim 7 above discloses all the claimed limitations of claim 18.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSE MESA whose telephone number is (571)270-
1706. The examiner can normally be reached on Monday Thru Thursday from 8:30am to 6:00pm Est. The examiner can also be reached on alternate Monday Thru Friday from 8:30am to 6:00pm Est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Thai Tran, can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://portal.uspto.gov/external/portal. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/J. M./ 10/17/2011
Examiner, Art Unit 2484

/Thai Tran/
Supervisory Patent Examiner, Art Unit 2484
**Notice of References Cited**

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**U.S. PATENT DOCUMENTS**

**FOREIGN PATENT DOCUMENTS**

**NON-PATENT DOCUMENTS**

Include as applicable: Author, Title, Date, Publisher, Edition, or Volume, Pertinent Pages)

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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)
** BIB DATA SHEET **

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** APPLICANTS **
- Wonjiang Baek, Seongnam-si, KOREA, REPUBLIC OF;
- John Kim, Seoul, KOREA, REPUBLIC OF;
- Seong Baek Lee, Seoul, KOREA, REPUBLIC OF;

** CONTINUING DATA ****************************

** FOREIGN APPLICATIONS **************************
- REPUBLIC OF KOREA 10-2008-0058198 06/20/2008

** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** ** SMALL ENTITY **
- 06/30/2009

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** ADDRESS **
- STEIN MCEWEN, LLP
- 1400 EYE STREET, NW
- SUITE 300
- WASHINGTON, DC 20005
- UNITED STATES

** TITLE **
- Method for providing channel service

** FILING FEE RECEIVED **
- 545

** FEES: Authority has been given in Paper **
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### Search Notes

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### Index of Claims

- **Application/Control No.** 12457508
- **Applicant(s)/Patent Under Reexamination** BAEK ET AL.
- **Examiner** JOSE MESA
- **Art Unit** 2484

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U.S. Patent and Trademark Office

Part of Paper No.: 20111013
NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 08/18/2011.

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

/hsarwari/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101
NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 08/18/2011.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record (37 CFR 1.33).

/hsarwari/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101
POWER OF ATTORNEY BY ASSIGNEE OF ENTIRE INTEREST
AND REVOCATION OF PRIOR POWERS

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

Sir:

The undersigned corporation is the assignee of record of the entire right, title, and interest of the patent applications and patents identified listed in the enclosed Attachment A:

REVOCATION OF PRIOR POWERS OF ATTORNEY

revokes all powers of attorney previously given, and

NEW POWER OF ATTORNEY

appoints the attorneys and/or agents of STEIN MCEWEN LLP under Customer No. 49,455 to prosecute and transact all business in the United States Patent and Trademark Office connected therewith.

CORRESPONDENCE CHANGE OF ADDRESS

All correspondence and telephone communications should be directed to the address associated with Customer Number 49,455, which is currently:

STEIN MCEWEN LLP
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PHONE: (202) 216-9505
FACSIMILE: (202) 216-9510

Page 1 of 2
STATEMENT AND CERTIFICATION UNDER 37 CFR §3.73(B)

ANYPOINT MEDIA GROUP, a United States corporation, certifies that it is the assignee of the entire right, title and interest in the patent applications and patents identified in the enclosed Attachment A, by way of assignments, and those assignments were recorded in the USPTO with available data identified in the Attachment A and/or are attached hereto as indicated in Attachment A.

The undersigned is empowered to sign this certificate on behalf of the assignee.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements are made with knowledge that willful false statements, and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

If there are any fees associated with the filing of this Statement and Certification, please charge and/or credit the same to Deposit Account No. 503333.

Dated 08/16/11

By: Jason Grant
Name: HAN JUN-SIK
Title: Managing Director
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# Electronic Acknowledgement Receipt

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<td><strong>First Named Inventor/Applicant Name:</strong></td>
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| Submitted with Payment | no |

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**Warnings:**

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Total Files Size (in bytes): 541427

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

In re the Application of:

Wonjang BAEK

Application No. 12/457,508

Group Art Unit: 2484

Confirmation No. 4330

Filed: June 12, 2009

Examiner: Thai Q. Tran

For: METHOD FOR PROVIDING CHANNEL SERVICE

LETTER TO THE EXAMINER REQUESTING ENTRY OF CHANGE IN POWER OF ATTORNEY AND CORRESPONDENCE ADDRESS

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

Sir:

In accordance with the enclosed Power of Attorney, it is respectfully submitted that the attorneys of Stein McEwen, LLP, customer number 49,455, are associated with the instant application and all prior powers of attorney have been revoked.

Please direct all correspondence to the address associated with customer number 49,455, which is presently as follows:

Stein McEwen, LLP
1400 Eye St., NW
Suite 300
Washington, D.C. 20005

Respectfully submitted,

STEA M MCEWEN, LLP

Date: August 18, 2011

By: ____________________________

Michael D. Stein
Registration No. 37,240

1400 Eye St. N.W., Suite 300
Washington, D.C. 20005
Telephone: (202) 216-9505
Facsimile: (202) 216-9510
Title: Method for providing channel service

Publication No.: US-2009-0316776-A1
Publication Date: 12/24/2009

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 (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, 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 Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101
This is to certify that the following application annexed hereto is a true copy from the records of the Korean Intellectual Property Office.

출원 번호 : 10-2008-0058198
Application Number

출원 년월일 : 2008년 06월 20일
Filing Date JUN. 20, 2008

출원인 : 드리머
Applicant(s) dreamer

2009년 07월 21일

COMMISSIONER
제출 일자 : 2008-06-20

【서지사항】

【서류명】 특허출원서
【참조번호】 0119
【출원구분】 특허출원
【출원인】
【영칭】 주식회사 드리머
【출원인코드】 1-2001-005355-0
【대리인】
【영칭】 특허법인지명
【대리인코드】 9-2007-100021-5
【정명된변리사】 김경욱, 박준용, 서일경, 이광현, 이창범
【포괄위임등록번호】 2007-012723-5
【발명의 국문명칭】 BD-J 기반 채널 서비스 제공 방법 및 이를 실현시키기 위한 프로그램을 기록한 컴퓨터로 판독 가능한 기록 매체
【발명의 영문명칭】 METHOD FOR PROVIDING CHANNEL SERVICE BASED ON BD-J SPECIFICATION AND COMPUTER-READABLE MEDIUM HAVING THEREON PROGRAM PERFORMING FUNCTION EMBODYING THE SAME
【발명자】
【성명】 백원장
【성명의 영문표기】 Baek Wonjang
【주민등록번호】 620511-1XXXXX
【우편번호】 463-731
【주소】 경기 성남시 분당구 이매동 아름마을건영아파트 107동 402호
【국적】 KR
【발명자】

43-1
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【성명의 영문표기】 LEE Seong Baek
【주민등록번호】 620601-1XXXXX
【우편번호】 158-051
【주소】 서울 양천구 목1동 목동아파트 704동 1403호
【국적】 KR

【발명자】
【성명】 김동수
【성명의 영문표기】 John Kim
【주민등록번호】 710910-1XXXXX
【우편번호】 152-720
【주소】 서울 구로구 구로1동 650-4번지 SK허브수 8동 1416호
【국적】 KR
【성사청구】 청구

위와 같이 특허청장에게 제출합니다.

대리인	특허법인지명 (인)

【수수료】
【출원료】 0 면 38,000 원
【가산출원료】 40 면 0 원
【우선권추정료】 0 건 0 원
【심사청구료】 19 항 717,000 원
【합계】 755,000 원
【감면사유】 소기업(70%감면)
【감면후 수수료】 226,500 원
【첨부서류】
1. 중소기업기본법 제22조의 규정에 따른 소기업에 해당함을 증명하는 서류_1통
【요약서】

본 발명은 (a) 채널 서비스에 대응하는 채널 스트림 데이터에 대해서 고정 규격 정보를 BD-J를 지원하는 컨텐츠 재생 장치로 전송하는 단계와, (b) 상기 채널 스트림 데이터에 대응하여 생성되는 가변 규격 정보를 상기 컨텐츠 재생 장치로 전송하는 단계와, (c) 상기 채널 스트림 데이터를 상기 컨텐츠 재생 장치로 전송하는 단계를 포함하는 BD-J 기반 채널 서비스 제공 방법에 관한 것이다.

본 발명에 따르면, 채널 서비스를 나타내는 정보를 고정 규격 정보와 가변 규격 정보로 구분하여 BD-J를 지원하는 컨텐츠 재생 장치에서 채널 서비스를 제공할 수 있다.

【대표도】

도 2

【색인서】

BD-J, 컨텐츠 재생 장치, 채널 서비스, 순차적 다운로드, 고정 규격 정보, 가변 규격 정보, 클립, 가상 페키지
발명의 명칭

BD-J 기반 채널 서비스 제공 방법 및 이를 설명하기 위한 프로그램을 기록한 컴퓨터로 판독 가능한 기록 매체

발명의 상세한 설명

기술분야

본 발명은 BD-J 기반 채널 서비스 제공 방법 및 이를 설명하기 위한 프로그램을 기록한 컴퓨터로 판독 가능한 기록 매체에 관한 것으로, 더욱 구체적으로는 채널 서비스를 나타내는 정보를 고정 규격 정보와 가변 규격 정보로 구분하여 BD-J를 지원하는 컨텐츠 제조 장치에서 채널 서비스를 제공하는 BD-J 기반 채널 서비스 제공 방법 및 이를 설명하기 위한 프로그램을 기록한 컴퓨터로 판독 가능한 기록 매체에 관한 것이다.

배경기술

블루레이(Blu-ray)는 소니, 마쓰시타, 샤프 등의 기업체가 속한 "블루레이 연합(Blu-ray Disc Association)"을 통해 정해진 정격색 레이저를 이용한 광디스크 규격을 지정한다.

블루레이 디스크는 외형적으로는 직경 12cm 두께 1.2mm 로 기존에 이르던
CD나 DVD와 동일하다. 그러나 블루레이는 CD나 DVD보다 증가된 기록 용량을 가진다.

블루레이는 405 nm 파장의 레이저를 사용하여 상각 레이어 15 GB, 두
열 레이어 30 GB의 기록 용량을 가진다. 즉 블루레이는 기존 DVD의 기록 용량의 5
배 이상의 기록 용량을 가진다. 또한 최대 레이어(4층)와 층 레이어(8층)를 적용
하는 경우 블루레이는 기록 용량을 100 GB 내지 200 GB까지 확장할 수 있다.

블루레이는 영상 압축 기술로서 현재 DVD에서 주로 사용되는 MPEG-2보다 압
축 성능이 뛰어난 H.264/AVC 또는 VC-1 등의 압축 기술을 사용하며, 음성 압축 기
술로서 현재 DVD에서 주로 사용되는 PCM, 돌비 디지털(DD), DTS 뿐만 아니라 돌비
디지털플러스(DD+)와 돌비트루HD(Dolby TrueHD), DTS-HD MA(Master Audio) 등의 기
술을 지원한다.

BD-J는 자바 기반의 음량한 플랫폼이다. BD-J는 네트워크 접속,
PnP(Picture-In-Picture), 및 국부 저장장치(Local Storage)에 대한 접속을 포함하
는 추가적인 기능을 지원한다. 특히 BD-J의 인터넷 접속 기능은 BD-Live라 지칭되
다.

BD-Live는 블루레이 규격을 만족하는 컨텐츠 제작 장치가 인터넷 등의 브로드
네트워크로부터 컨텐츠를 수신하여 재생하기 위한 기능, 즉 네트워크 연결(network
connectivity) 기능을 강의한다.

또한 가상 파일 시스템(Virtual File System, VFS)은 블루레이 규격을 만족
하나는 컨텐츠 재생 장치가 블루레이 디스크가 아닌 다른 메체로부터 수신한 컨텐츠, 예컨대 USB로부터 판독한 컨텐츠 또는 통신 네트워크를 통하여 수신한 컨텐츠를 실현하기 위하여 물리적 디스크 페키지보다 상위인 가상 디스크 페키지를 정의한다.

BD-Live의 비트워크 연결 기능 및 VFS를 이용하면, 블루레이 규격을 만족하는 컨텐츠 재생 장치는 인터넷 등의 통신 네트워크를 통하여 컨텐츠에 대한 정보를 수신하고, 해당 컨텐츠가 타치 블루레이 디스크 상에 존재하는 것처럼 가상 페키지를 생성한 후 해당 컨텐츠를 다운로드하여 재생할 수 있다.

BD-J는 블루레이 플레이어가 지원하는 양방향 서비스 규격이지만, 블루레이 플레이어 뿐만 아니라 TV, 게임기, 셋톱박스, 휴대용 멀티미디어 재생 장치(PMP), 개인용 컴퓨터 및 PVR(Personal Video Recorder) 등의 장치도 BD-J를 미들웨어로서 지원할 수 있다.

이하 본 발명에서 "BD-J 지원 컨텐츠 재생 장치"는 BD-J 규격을 지원하여 컨텐츠를 재생하는 기능을 구비하는 장치를 지칭한다.


BD-J 지원 컨텐츠 재생 장치는 바람직하게는 블루레이 디스크를 판독하는 기
능을 포함한다. 에컨데 블루레이 플레이어 또는 블루레이 디스크에 저장된 게임 데이터를 실행하는 제작기는 블루레이 디스크를 판독하는 기능을 포함한다.

그러나 본 발명에 따른 BD-J 지원 컨텐츠 재생 장치는 블루레이 디스크를 판독하는 기능을 포함하지 않더라도 BD-J를 미들웨어로 사용하는 장치일 수 있다.

도 1은 종래 기술에 따른 BD-J 지원 컨텐츠 재생 장치에서 네트워크를 이용하여 컨텐츠를 수신하여 재생하는 구성의 예를 나타내는 도면이다.

BD-J 지원 컨텐츠 재생 장치. 에컨데 블루레이 플레이어가 컨텐츠를 제공하는 서버로부터 특정 영화 컨텐츠를 수신하여 재생하는 경우를 가정하자.

해당 영화 컨텐츠가 100개의 클립(Clip)으로 구성된다면, 컨텐츠를 제공하는 서버는 BD-Live 규격에 따라서 다음과 같은 데이터를 생성한다.

BUMF(Binding Unit Manifest File)는 가상 폴더의 구성 요소들 예컨데 XML 형태로 정의하는 정보이다. BUMF는 예컨데 영화 컨텐츠를 구성하는 100개의 클립 각각에 대한 파일 이름 정보, 바인딩(binding) 정보를 포함한다.

SF(Signature File)는 BUMF 정보의 유효성을 검증하기 위한 정보이다. SF는 예컨데 SHA-1 알고리즘을 이용한 서명 파일 정보이다.

플레이리스트(Play List)는 재생할 스트림에 대한 정보이다. 플레이리스트 정보는 예컨데 각 클립의 재생 순서, PlayItem 정보, PlaylistMark 정보를 포함한다.

클립 정보(Clip Info)는 각 클립의 재생에 필요한 정보를 포함한다. 예컨데
각 클립에 대해서 클립의 스트립 형태, 각 클립 내의 파ObjectId 각 클립이 사용하는 인코딩 규격, 타임스탬프(Timestamp) 정보를 포함한다.

클립은 오디오 비디오 데이터이다. 클립은 영화 컨텐츠를 일정 크기 또는 일정 재생 시간 단위로 분할한 데이터일 수 있으나, 서로 다른 크기 또는 서로 다른 재생 시간으로 분할될 수 도 있다.

블루레이 플레이어는 컨텐츠를 제공하는 서버로부터 전송한 BUMF, SF, 플레이리스트, 클립 정보를 수신한다. 이후 블루레이 플레이어는 BUMF, SF, 플레이리스트, 클립 정보를 BUDA(Binding Unit Data Area)에 저장한 후, BUMF, SF, 플레이리스트, 클립 정보를 이용하여 디스크 페키지를 아닌 가상 페키지를 재생하는 것으로 페키지를 가상화하는 시스템 설정을 수행한다.

즉 블루레이 플레이어는 블루레이 디스크에 저장된 컨텐츠를 재생하는 것이 아니라 네트워크를 통해 컨텐츠를 제공하는 서버로부터 수신한 컨텐츠를 가상 페키지 형태로 재생하는 것으로 시스템을 설정한다.

가상 페키지를 재생하는 것으로 시스템 설정을 수행한 이후, 블루레이 플레이어는 시스템 설정을 참조하여 서버로부터 클립을 순차적으로 수신하여 재생한다.

따라서 블루레이 플레이어는 영화 컨텐츠의 각 클립을 수신하면서 동시에 이미 수신한 클립을 참조로 영화 컨텐츠를 재생할 수 있다. 즉 BD-Live는 순차적 다운로드(Progressive Download) 방식을 이용하여 컨텐츠의 제공이 가능하다.

그러나 이러한 콘텐츠의 순차적 다운로드 방식은 이미 알고 있는 고정된 크기
의 컨텐츠, 예컨대 영상 컨텐츠를 통신 네트워크를 통하여 수신하여 재생하는 기능을 제공한다. 즉 가장 평가지의 설정을 위해서는 BUMF, SF, 플레이리스트, 클립 정보를 미리 수신하여야 한다. 따라서 컨텐츠를 제공하는 서버는 컨텐츠의 전체 데이터 크기, 클립 개수, 각 클립의 인코딩 규격, 유 효성 확인 정보 등을 미리 알고 있어야 한다.

그러나 채널 서비스의 경우에는 컨텐츠를 제공하는 서버는 BUMF, SF, 플레이리스트, 클립 정보 등을 미리 알 수 없다. "채널 서비스"는 본원 별명의 명세서에서 연속적인 스트림으로 제공되어야 하는 컨텐츠를 제공하는 서비스를 의미한다. 즉 본원 별명의 명세서에서 채널 서비스는 예컨대 지상파 방송 채널에서 채널 형태로 연속적인 스트림이 제공되는 것과 유사하게 BD-J 지원 컨텐츠 재생 장치에서 연속적으로 스트림을 제공하는 서비스를 의미한다. 따라서 본원 별명의 명세서에서 채널 서비스는 VOD 형태로 고정된 컨텐츠에 대해서 ID 형태로 채널을 부여하는 서비스와는 구분된다.

채널 서비스에 대응하는 채널 스트림 데이터는 미리 확정되는 것이 아니라 채널 서비스에 대응하여 실시간 또는 준-실시간으로 생성될 수 있다. 예컨대 생방송 채널 서비스 형태로 제공하는 경우 채널 서비스에 대응하는 채널 스트림 데이터는 실시간 또는 준-실시간으로 생성된다.

따라서 컨텐츠를 제공하는 서버는 BUMF, SF, 플레이리스트, 클립 정보 등을 미리 확정할 수 없다.
정할 수 없기 때문에, 블루레이 플레이어로 채널 서비스에 대응하는 가상 페키지의 설정이 불가능하다. 따라서 블루레이 플레이어는 고정된 크기를 가지는 컨텐츠가 아닌 스트리밍 형태의 채널 서비스를 제공하지 못한다.

이와 같이 총재의 블루레이 플레이어는 BD-J 규격이 스트림 데이터의 재생을 고려하지 않고 설계되므로 연속적인 스트림 형태의 채널 서비스를 구현하지 못하는 문제점이 있다.

【발명의 내용】

【해결하고자 하는 과제】

본 발명의 목적은 채널 서비스를 나타내는 정보를 고정 규격 정보와 가변 규격 정보로 구분하여 BD-J를 지원하는 컨텐츠 재생 장치에서 채널 서비스를 제공하는 BD-J 기반 채널 서비스 제공 방법을 제공하는 데 있다.

본 발명의 다른 목적은 상기 BD-J 기반 채널 서비스 제공 방법의 각 단계를 실현시키기 위한 프로그램을 기록한 컴퓨터로 만든 가능한 기록 매체를 제공하는데 있다.

【과제 해결 수단】

상기 기술적 과제를 달성하기 위하여, 본 발명은 (a) 채널 서비스에 대응하는 채널 스트림 데이터에 대해서 고정 규격 정보를 BD-J를 지원하는 컨텐츠 재생 장치로 전송하는 단계와, (b) 상기 채널 스트림 데이터에 대응하여 생성되는 가변 규격 정보를 상기 컨텐츠 재생 장치로 전송하는 단계와, (c) 상기 채널 스트림 데이터
이러한 상기 컨텐츠 재생 장치로 전송하는 단계를 포함하는 BD-J 기반 채널 서비스 제공 방법을 제공한다.

본 발명에 따른 BD-J 기반 채널 서비스 제공 방법에 있어서, 상기 단계 (a)는, (a-1) 상기 컨텐츠 재생 장치로부터 상기 채널 서비스의 제공 요청을 수신하는 단계와, (a-2) 상기 채널 서비스의 제공 요청에 대응하여 상기 고정 규격 정보를 상기 컨텐츠 재생 장치로 전송하는 단계를 포함할 수 있다.

또한 본 발명에 따른 BD-J 기반 채널 서비스 제공 방법에 있어서, 상기 단계 (b)는, (b-1) 상기 채널 서비스 제공 장치로부터 상기 가변 규격 정보의 제공 요청을 수신하는 단계와, (b-2) 상기 가변 규격 정보의 제공 요청에 대응하여 상기 가변 규격 정보를 상기 컨텐츠 재생 장치로 전송하는 단계를 포함할 수 있다.

또한 본 발명에 따른 BD-J 기반 채널 서비스 제공 방법에 있어서, 상기 채널 스트림 데이터는 상기 채널 서비스에 대응하여 생성되는 미리 지정된 계수의 클립을 포함하는 것이고, 상기 가변 규격 정보는 상기 미리 지정된 계수의 클립 중 적어도 하나의 클립의 생성에 대응하여 생성되는 클립 정보를 포함하는 것일 수 있다.

또한 본 발명에 따른 BD-J 기반 채널 서비스 제공 방법에 있어서, 상기 단계 (b)는, (b-3) 상기 미리 지정된 계수의 클립 중에서 적어도 하나의 클립을 생성하는 단계와, (b-4) 상기 적어도 하나의 클립에 대응하는 상기 클립 정보를 생성하는 단계와, (b-5) 상기 클립 정보를 상기 컨텐츠 재생 장치로 전송하는 단계를 포함하는 것이고, 상기 단계 (c)는, (c-1) 상기 컨텐츠 재생 장치로부터 상기 적어도 하
나의 클립에 대한 전송 요청을 수신하는 단계와, (c-2) 상기 전송 요청에 대응하여 상기 적어도 하나의 클립의 상기 클렌즈 제생 장치로 전송하는 단계를 포함하는 것일 수 있다.

또한 본 발명에 따른 BD-J 기반 채널 서비스 제공 방법에 있어서, 상기 단계 (b-3)은, (b-6) 생성된 상기 적어도 하나의 클립을 상기 미리 지정된 겪수의 클립에 대해서 설정된 원형 큐(circular queue) 형태의 저장 공간에 저장하는 단계를 포함할 수 있다.

또한 본 발명에 따른 BD-J 기반 채널 서비스 제공 방법에 있어서, 상기 고정규격 정보는 미리 저장된 겪수의 클립을 포함하는 상기 스트림 데이터에 대해서 미리 저장된 BUMP(Binding Unit Manifest File) 정보, SR(Signature File) 정보 및 플레이리스트(Play List) 정보 중 적어도 하나를 포함하는 것이고, 상기 가변 규격 정보는 상기 미리 저장된 겪수의 클립 중 적어도 하나의 클립의 생성에 대응하여 생성되는 클립 정보(Clip Info)를 포함하는 것일 수 있다.

또한 본 발명은 BD-J를 지원하는 클렌즈 제생 장치에서의 BD-J 기반 채널 서비스 제공 방법으로서, (a) 채널 서비스에 대응하는 채널 스트림 데이터에 대해서 고정 규격 정보를 수신하는 단계와, (b) 상기 고정 규격 정보를 기초로 상기 채널 서비스의 제공을 위한 시스템 설정을 수행하는 단계와, (c) 상기 채널 스트림 데이터에 대해서 생성되는 가변 규격 정보를 수신하는 단계와, (d) 상기 고정 규격 정보 및 가변 규격 정보를 기초로 상기 채널 스트림 데이터를 수신하여 재생하는 단계를 포함하는 BD-J 기반 채널 서비스 제공 방법을 제공한다.
본 발명에 따른 BD-J 기반 채널 서비스 제공 방법에 있어서, 상기 단계 (a)는, (a-1) 상기 채널 서비스를 선택하는 사용자 입력을 수신하는 단계와, (a-2) 상기 채널 서비스를 제공하는 서버에게로 상기 채널 서비스의 제공 요청을 전송하는 단계와, (a-3) 상기 서버로부터 상기 고정 규격 정보를 수신하는 단계를 포함할 수 있다.

또한 본 발명에 따른 BD-J 기반 채널 서비스 제공 방법에 있어서, 상기 단계 (b)는, (b-1) 상기 고정 규격 정보를 기초로 상기 채널 스트림 데이터를 재생하기 위한 가상 패키지를 설정하는 단계를 포함할 수 있다.

또한 본 발명에 따른 BD-J 기반 채널 서비스 제공 방법에 있어서, 상기 단계 (c)는, (c-1) 상기 채널 서비스를 제공하는 서버에게로 상기 가변 규격 정보의 제공 요청을 전송하는 단계와, (c-2) 상기 서버로부터 상기 가변 규격 정보를 수신하는 단계를 포함할 수 있다.

또한 본 발명에 따른 BD-J 기반 채널 서비스 제공 방법에 있어서, 상기 채널 스트림 데이터는 상기 채널 서비스에 대응하여 생성되는 미리 지정된 개수의 클립을 포함하는 것이고, 상기 가변 규격 정보는 상기 미리 지정된 개수의 클립 중 적어도 하나의 클립의 생성에 대응하여 생성되는 클립 정보를 포함하는 것일 수 있다.

또한 본 발명에 따른 BD-J 기반 채널 서비스 제공 방법에 있어서, 상기 단계 (c)는, (c-3) 상기 클립 정보를 수신하는 단계를 포함하는 것이고, 상기 단계 (d)
는, (d-1) 상기 클립 정보에 대응하는 상기 적어도 하나의 클립을 수신하여 재생하는 단계를 포함하는 것일 수 있다.

또한 본 발명에 따른 ED-J 기반 채널 서비스 제공 방법에 있어서, 상기 고정 규격 정보는 상기 미리 저장된 개수의 클립에 대해서 재생 순서 정보를 포함하는 것이고, 상기 단계 (c)는, (c-4) 상기 재생 순서 정보를 기초로 상기 클립 정보를 수신하는 단계를 포함하는 것이고, 상기 단계 (d)는, (d-2) 상기 클립 정보에 대응하는 상기 적어도 하나의 클립을 수신하여 재생하는 단계를 포함하는 것일 수 있다.

또한 본 발명에 따른 ED-J 기반 채널 서비스 제공 방법에 있어서, 상기 단계 (d)는, (d-3) 상기 미리 저장된 개수의 클립에 대해서 미리 설정된 저장 공간에 상기 적어도 하나의 클립을 저장하는 단계를 포함할 수 있다.

또한 본 발명에 따른 ED-J 기반 채널 서비스 제공 방법에 있어서, 상기 단계 (d-3)는, (d-3) 원형 큐 형태로 구성되는 상기 저장 공간에 상기 적어도 하나의 클립을 저장하는 단계를 포함할 수 있다.

또한 본 발명에 따른 ED-J 기반 채널 서비스 제공 방법에 있어서, 상기 단계 (d)는, (d-4) 상기 저장 공간에 저장된 상기 미리 저장된 개수의 클립 중에서 사용자 입력을 기초로 선택되는 클립을 관독하여 재생하는 단계를 포함할 수 있다.

또한 본 발명에 따른 ED-J 기반 채널 서비스 제공 방법에 있어서, 상기 고정 규격 정보는 미리 저장된 개수의 클립을 포함하는 상기 스트림 데이터에 대해서 미
리 지정된 BUMF(Binding Unit Manifest File) 정보, SF(Signature File) 정보 및 플레이리스트(Play List) 정보 등 적어도 하나를 포함하는 것이고, 상기 가변 규격 정보는 상기 미리 지정된 개수의 클립 중 적어도 하나의 클립의 생성에 대응하여 생성되는 클립 정보(Clip Info)를 포함하는 것일 수 있다.

또한 본 발명은 전술한 BD-J 기반 채널 서비스 제공 방법의 각 단계를 실행시키기 위한 프로그램을 기록한 컴퓨터로 판독 가능한 기록 매체를 제공한다.

【효과】

본 발명에 따르면 채널 서비스를 나타내는 정보를 고정 규격 정보와 가변 규격 정보로 구분하여 BD-J를 지원하는 컨텐츠 재생 장치에서 채널 서비스를 제공할 수 있다.

【발명의 실시를 위한 구체적인 내용】

이하, 본 발명의 BD-J 기반 채널 서비스 제공 방법 및 이를 설명시키기 위한 프로그램을 기록한 컴퓨터로 판독 가능한 기록 매체의 실시예를 참조한 도면을 참조로 보다 구체적으로 설명한다.

도 2는 본 발명에 따른 BD-J 기반 채널 서비스 제공 방법의 예시적인 흐름도이다. 도 2에 도시된 본 발명에 따른 BD-J 기반 채널 서비스 제공 방법은 특히 BD-J 지원 컨텐츠 재생 장치(도시되지 않음)에게서 채널 서비스를 제공하는 서버(도시되지 않음) 내에서 구현된다.

도 2를 참조하면, 채널 서비스를 제공하는 서버는 채널 서비스에 대응하는
채널 스트림 데이터에 대해서 고정 규격 정보를 BD-J 지원 컨텐츠 재생 장치로 전송한다(S110).

고정 규격 정보는 채널 서비스에 대응하는 채널 스트림 데이터에 대해서 고정적으로 사용되는 정보이다.

채널 서비스를 제공하는 서버는 일정 시간 단위 또는 일정 데이터 크기 단위로 채널 스트림 데이터를 구성하도록 채널 스트림 데이터의 형식을 미리 지정한다.

또한 채널 서비스를 제공하는 서버는 채널 스트림 데이터가 미리 지정된 개수의 클립으로 구성되도록 미리 채널 스트림 데이터의 형식을 지정한다.

이와 같이 미리 지정된 채널 스트림 데이터의 형식이 고정 규격 정보이다.

고정 규격 정보는 채널 스트림 데이터의 생성되는 경우 특히 채널 스트림 데이터를 구성하는 미리 지정된 개수의 클립 각각이 생성되는 경우에도 변경되지 않는 정보이다.

고정 규격 정보는 예전에 채널 스트림 데이터의 유 효성을 확인하기 위한 서명 정보를 포함할 수 있다. 즉 채널 스트림 데이터가 미리 지정된 개수의 클립으로 구성된 경우라면, 고정 규격 정보는 미리 지정된 개수의 클립 전체에 대한 유 효성을 확인하기 위한 서명 정보를 포함할 수 있다.

또한 고정 규격 정보는 미리 지정된 개수의 클립에 대해서 순차적 다운로드를 위한 정보를 포함할 수 있다. 예전에 제1 클립에서 제100 클립까지 총 100개의 클립으로 구성된 채널 스트림 데이터인 경우, 고정 규격 정보는 채널 스트림 데이터
더를 재생하기 위해서는 우선 제1 클립을 수신완료 한 후 제1 클립을 재생하고 제1 클립을 재생하는 도중에 제2 클립을 수신하며, 제2 클립을 수신완료한 후 제2 클립을 재생하면서 동시에 제3 클립을 수신하도록 지정된 정보를 포함할 수 있다. 순차적 다운로드를 위한 정보를 포함하는 고정 규격 정보를 이용하여 BD-J 지원 컨텐츠 재생 장치는 채널 서비스를 제공할 수 있다.

<65> 고정 규격 정보의 전송을 위해서 다음과 같은 과정이 수행될 수 있다.

<66> 우선 BD-J 지원 컨텐츠 재생 장치는 사용자 입력 등을 기초로 채널 서비스를 제공하기 위한 요청, 즉 채널 서비스의 제공 요청을 생성한다. 이후 BD-J 지원 컨텐츠 재생 장치는 생성한 채널 서비스의 제공 요청을 채널 서비스를 제공하는 서버에게 전송한다.

<67> 채널 서비스를 제공하는 서버는 단계 S110의 수행시, 우선 BD-J 지원 컨텐츠 재생 장치로부터 전송되는 채널 서비스의 제공 요청을 수신한다. 채널 서비스 제공 요청을 수신하면, 채널 서비스를 제공하는 서버는 이에 대응하여 고정 규격 정보를 BD-J 지원 컨텐츠 재생 장치로 전송한다.

<68> 특히 채널 서비스의 제공 요청은 다수의 채널 서비스 중 사용자가 원하는 채널 서비스에 대한 선택 요청을 포함할 수 있다.

<69> 예컨대 채널 서비스를 제공하는 서버가 채널 1번 내지 채널 10번 의 중 10개의 채널 서비스를 제공한다면, BD-J 지원 컨텐츠 재생 장치는 사용자가 선택한 채널, 예컨대 채널 5번에 대해서 채널 서비스의 제공 요청을 전송한다. 이에 대응하
여 채널 서비스를 제공하는 서버는 단계 S110을 통하여 채널 5번에 대한 고정 규격 정보를 BD-J 지원 컨텐츠 재생 장치로 전송한다.

단계 S110을 통하여 고정 규격 정보를 전송한 이후, 채널 서비스를 제공하는 서버는 채널 스트림 데이터에 대응하여 생성되는 가변 규격 정보를 BD-J 지원 컨텐츠 재생 장치로 전송한다(S130).

가변 규격 정보는 채널 스트림 데이터를 구성하는 미리 지정된 개수의 클립 중 적어도 하나의 클립의 생성에 대응하여 생성되는 클립 정보를 포함할 수 있다.

가변 규격 정보의 전송에 대해서 좀 더 상세히 설명하면 다음과 같다.

채널 서비스를 제공하는 서버는 채널 서비스에 대응하여 채널 스트림 데이터를 생성한다. 예컨대 채널 서비스가 생방송 스포츠 중계에 대응하는 경우라면, 채널 서비스를 제공하는 서버는 생방송 스포츠 중계에 대응하여 고정 규격 정보를 이용하여 채널 스트림 데이터를 생성한다. 채널 스트림 데이터는 예컨대 미리 지정된 개수의 클립을 포함할 수 있으며, 생방송 스포츠 중계에 대응하여 각 클립의 순차적으로 생성될 수 있다.

채널 스트림 데이터의 생성은 진술한 고정 규격 정보를 이용하여 수행된다. 그러나 고정 규격 정보는 각 클립의 형식만을 지정한 것이다. 따라서 클립 내용에 따라서 변경되는 정보, 즉 가변 규격 정보는 실제 클립의 내용을 기초로 생성되어야 한다.

각 클립이 순차적으로 생성되는 경우, 각 클립에 대응하여 가변적인 클립 정보
보이 생성된다. 제1 클립에서 제100 클립까지 총 100개의 클립으로 구성된 채널 스트립 데이터인 경우, 제1 클립이 생성되는 경우 제1 클립에 대응하는 제1 클립 정보가 생성되며, 또한 제2 클립이 생성되는 경우 제2 클립에 대응하는 제2 클립 정보가 생성된다.

클립 정보는 또한 채널 스트립 데이터를 구성하는 미리 지정된 개수의 클립 중 하나 이상의 클립에 대해서 생성될 수도 있다.

가변 규격 정보는 클립의 유효성을 확인할 수 있는 정보를 포함한다.

즉 클립 정보는 대응되는 클립에 대해서 유효성을 확인할 수 있는 정보를 포함한다. 또한 클립 정보는 대응되는 클립의 재생에 필요한 정보를 포함한다. 예컨대 클립 정보는 대응되는 클립에 대해서 클립의 스트림 형태, 각 클립 내의 패킷 수, 각 클립이 사용하는 인코딩 규격, 타임스탬프(Timestamp) 정보 등을 포함한다.

클립 정보는 클립이 생성되는 경우 대응하여 생성되는 가변적인 정보이다. 따라서 채널 서비스를 제공하는 서버는 실제 클립 생성이 되기 전까지는 클립 정보를 알지 못한다.

따라서 본 발명에서 우선 단계 S110을 통하여 고정 규격 정보를 BD-J 지원 컨텐츠 재생 장치로 전송하여 BD-J 지원 컨텐츠 재생 장치가 채널 서비스를 위한 시스템 설정을 수행하도록 한 후, 채널 서비스 제공 서버는 채널 스트림 데이터, 즉 채널 스트림 데이터를 구성하는 미리 지정된 개수의 클립 각각의 생성에 대응하여 생성되는 가변 규격 정보, 즉 클립 정보를 BD-J 지원 컨텐츠 재생 장치로 전송.
한편 채널 스트림 데이터는 미리 지정된 개수의 클립으로 구성된다. 따라서 채널 서비스 제공 서버는 원형 큐(circular queue) 형태의 저장 공간을 설정하고 채널 스트림 데이터를 구성하는 미리 지정된 개수의 클립 각각이 생성되는 경우 저장하도록 구성할 수 있다.

예컨대 클립 #1 내지 클립 #100으로 구성되는 채널 스트림 데이터에 있어서, 채널 서비스를 제공하는 서버는 클립 #100을 생성한 이후 채널 서비스에 대응하여 클립 #1부터 다시 생성한다.

따라서 채널 서비스를 제공하는 서버는 클립 #1 내지 클립 #100의 저장을 위해서 설정된 원형 큐 형태의 저장 공간에 생성된 클립을 저장할 수 있다.

가변 규격 정보의 전송을 위해서 다음과 같은 과정이 수행될 수 있다.

우선 BD-J 지원 컨텐츠 재생 장치는 단계 S110을 통하여 전송된 고정 규격 정보를 수신하면 채널 서비스의 제공을 위한 시스템 설정을 수행한다. BD-J 지원 컨텐츠 재생 장치는 이후 채널 서비스에 대응하는 가변 규격 정보의 제공 요청을 생성하고, 생성된 가변 규격 정보의 제공 요청을 채널 서비스를 제공하는 서버에게
로 전송한다.

단계 S130에서, 채널 서비스를 제공하는 서버는 BD-J 지원 컨텐츠 재생 장치로부터 채널 서비스에 대한 가변 규칙 정보의 제공 요청을 수신하며, 가변 규칙 정보의 요청에 대응하여 가변 규칙 정보를 BD-J 지원 컨텐츠 재생 장치로 전송한다.

이후 채널 서비스를 제공하는 서버는 채널 스트림 데이터를 BD-J 지원 컨텐츠 재생 장치로 전송한다(S150).

채널 스트림 데이터의 전송에 대해서 좀 더 세세히 설명하면 다음과 같다.

채널 서비스를 제공하는 서버는 단계 S130에서 적어도 하나의 클립에 대한 클립 정보를 BD-J 지원 컨텐츠 재생 장치로 전송한다.

BD-J 지원 컨텐츠 재생 장치는 클립 정보를 기초로 적어도 하나의 클립에 대한 전송 요청을 생성하고, 생성된 적어도 하나의 클립에 대한 전송 요청을 채널 서비스를 제공하는 서버에게로 전송한다.

채널 서비스를 제공하는 서버는 적어도 하나의 클립에 대한 전송 요청을 수신하면, 해당 클립을 BD-J 지원 컨텐츠 재생 장치로 전송한다.

본 발명에 따르면, 채널 서비스를 제공하는 서버는 BD-J 지원 컨텐츠 재생 장치에게로 채널 서비스를 제공할 수 있다.

에견대 BD-J 지원 컨텐츠 재생 장치가 블루레이(Blu-Ray) 규격에 따른 디스크 매체를 재생하는 장치인 경우를 가정하자.
이 경우 고정 규격 정보는 미리 저장된 개수의 클립을 포함하는 스트림 데이터에 대해서 미리 저장된 BUUF(Binding Unit Manifest File) 정보, SF(Signature File) 정보 및 플레이리스트(Play List) 정보 중 적어도 하나를 포함할 수 있다.

또한 가변 규격 정보는 미리 저장된 개수의 클립 중 적어도 하나의 클립에 대한 클립 정보(Clip Info)를 포함할 수 있다.

중래 기술에 따르면, BD-Live 규격을 이용하여 네트워크를 통하여 영화 컨텐츠 등의 데이터 크기가 미리 저장된 컨텐츠를 제공하는 경우, BUUF(Binding Unit Manifest File) 정보, SF(Signature File) 정보 및 플레이리스트(Play List) 정보 및 클립 정보(Clip Info) 모두를 미리 전송하여야 한다.

그러나 채널 서비스인 경우 데이터 크기가 미리 저장되지 않기 때문에 클립 정보(Clip Info)를 미리 알지 못하기 때문에 중래 기술에 따르면 블루레이 플레이어는 채널 서비스를 제공하지 못한다.

그러나 본 발명에 따르면, 채널 서비스를 제공하는 서버는 BUUF(Binding Unit Manifest File) 정보, SF(Signature File) 정보 및 플레이리스트(Play List) 정보를 우선 BD-J 지원 컨텐츠 재생 장치에 제공하고, BD-J 지원 컨텐츠 재생 장치는 해당 정보들을 이용하여 시스템 설정을 수행한다. 이후 채널 서비스를 제공하는 서버는 채널 서비스에 대응하는 클립을 생성하면서 클립 정보를 생성하고 생성한 클립 정보를 BD-J 지원 컨텐츠 재생 장치에 전송한다. BD-J 지원 컨텐츠 재생 장치는 클립 정보를 수신하여 해당되는 클립을 수신하여 재생한다.
따라서 본 발명에 따르면 채널 서비스를 제공하는 서버는 채널 서비스를 BD-J 지원 컨텐츠 재생 장치에 제공할 수 있다.

한편 도 2를 참조로 채널 서비스를 제공하는 서버에서 구현된 본 발명에 따른 BD-J 기반 채널 서비스 제공 방법이 상세히 설명되었지만, 본 발명에 따른 BD-J 기반 채널 서비스 제공 방법은 또한 BD-J 지원 컨텐츠 재생 장치에서 구현될 수 있다.

도 3은 본 발명에 따른 BD-J 기반 채널 서비스 제공 방법의 다른 예시적인 환경도이다. 도 3에 도시된 본 발명에 따른 BD-J 기반 채널 서비스 제공 방법은 특히 채널 서비스를 제공하는 서버(도시되지 않음)로부터 채널 스트림 데이터를 수신하여 제공하는 BD-J 지원 컨텐츠 재생 장치(도시되지 않음) 내에서 구현된다.

도 3을 참조하면, BD-J 지원 컨텐츠 재생 장치는 채널 서비스에 대응하는 채널 스트림 데이터에 대해서 고정 규격 정보를 수신한다(S210).

채널 스트림 데이터와, 고정 규격 정보는 도 2의 단계 S210을 참조로 설명되었으므로 상세한 설명은 생략한다.

다만 단계 S210에서, BD-J 지원 컨텐츠 재생 장치는 채널 서비스의 선택을 수행하고 해당 채널 서비스에 대해서 고정 규격 정보를 요청한 후 이에 대한 고정 규격 정보를 수신할 수 있다.

예컨대 채널 서비스를 제공하는 서버가 채널 1번 내지 채널 10번 의 중 10개의 채널 서비스를 제공한다면, BD-J 지원 컨텐츠 재생 장치는 이러한 채널들에 대해
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해서 미리 지정된 채널 리스트 영향으로 사용자 인터페이스를 생성한 후 사용자에게 표시한다.

미리 지정된 채널 리스트의 표시에 대응하여 사용자가 채널을 선택하면, BD-J 지원 컨텐츠 재생 장치는 사용자 입력을 수신하여 채널 서비스의 제공 요청을 생성한 후, 해당 채널 서비스의 제공 요청을 채널 서비스를 제공하는 서버에게 전송한다.

BD-J 지원 컨텐츠 재생 장치는 이후 채널 서비스를 제공하는 서버로부터 채널 서비스에 대응하여 고정 규격 정보를 수신한다.

이후 단계 S210을 통하여 수신한 고정 규격 정보를 기초로 BD-J 지원 컨텐츠 재생 장치는 재생 장치는 채널 서비스의 제공을 위한 시스템 설정을 수행한다(S230).

예컨대 블루레이 디스크 관리 기능을 가지는 BD-J 지원 컨텐츠 재생 장치는 디스크 매체에 저장된 컨텐츠를 재생하는 것이 아니라 채널 서비스를 제공하는 서버로부터 수신한 채널 스트림 데이터를 재생하도록 시스템 설정을 수행한다.

또한 블루레이 디스크 관리 기능이 없는 BD-J 지원 컨텐츠 재생 장치도 채널 서비스를 제공하는 서버로부터 수신한 채널 스트림 데이터를 재생하도록 시스템 설정을 수행한다.

즉 BD-J 지원 컨텐츠 재생 장치는 채널 스트림 데이터의 수신 및 제공을 위하여 저장 폴키지를 설정한다.

단계 S230에서의 시스템 설정을 위하여 BD-J 지원 컨텐츠 재생 장치는 단계
S110에서 수신한 고정 규격 정보를 사용한다.

 BD-J 지원 컨텐츠 재생 장치는 단계 S210에서 고정 규격 정보를 수신하면, 고정 규격 정보를 이용하여 시스템 설정을 수행한다.

 즉 BD-J 지원 컨텐츠 재생 장치는 고정 규격 정보를 이용하여 채널 서비스에 대해서 채널 스트림 데이터의 형식을 추출하고, 해당 채널 스트림 데이터에 대해서 재생을 수행하도록 시스템 설정을 수행한다.

 이후 단계 S230에서의 시스템 설정이 완료되면, BD-J 지원 컨텐츠 재생 장치는 채널 스트림 데이터에 대해서 생성되는 가변 규격 정보를 수신한다(S250).

 가변 규격 정보는 도 2의 단계 S230을 참조로 설명되었으므로 상세한 설명은 생략한다.

 다만 단계 S230에서, BD-J 지원 컨텐츠 재생 장치는 채널 서비스를 제공하는 서버에게 가변 규격 정보의 제공 요청을 전송할 수 있다. 이후 BD-J 지원 컨텐츠 재생 장치는 가변 규격 정보의 제공 요청에 대응하여 채널 서비스를 제공하는 서버로부터 전송되는 가변 규격 정보를 수신할 수 있다.

 가변 규격 정보는 진출하듯이 채널 스트림 데이터를 구성하는 미리 지정된 게수의 클립 중에서 적어도 하나의 클립에 대응하여 생성되는 클립 정보를 포함할 수 있다.

 단계 S250에서 BD-J 지원 컨텐츠 재생 장치는, 채널 스트림 데이터의 미리 지정된 게수의 클립 중에서 적어도 하나의 클립에 대응하는 클립 정보를 수신할 수
한편 단계 S210에서 수신한 고정 규격 정보는 채널 스트림 데이터의 미리 지정된 개수의 클립에 대해서 재생 순서 정보를 포함할 수 있다.

이 경우 단계 S250에서, BD-J 지원 컨텐츠 재생 장치는 재생 순서 정보를 기초로 미리 지정된 개수의 클립 중에서 적어도 하나의 클립에 대응하는 클립 정보를 수신할 수 있다.

즉 현재 재생한 클립, 현재 재생할 클립 다음에 재생할 클립 등의 순서가 정해져 있으므로, BD-J 지원 컨텐츠 재생 장치는 이러한 클립들에 대해서 재생 순서 정보를 기초로 클립 정보를 수신할 수 있다.

이후 단계 S250에서 수신한 가변 규격 정보를 기초로 채널 스트림 데이터를 수신하여 재생한다(S270).


한편 단계 S270에서 BD-J 지원 컨텐츠 재생 장치는 수신한 클립을 미리 설정된 저장 공간에 저장할 수 있다.

예컨대 BD-J 지원 컨텐츠 재생 장치는 채널 스트림 데이터를 구성하는 미리 지정된 개수의 클립의 저장을 위해서 저장 공간을 미리 설정할 수 있다.
단체 S270에서 미리 지정된 개수의 클립 중에서 적어도 하나의 클립이 수신되던 해당 클립을 해당 저장 공간에 저장한다.

미리 지정된 개수의 클립의 저장을 위해서 해당 공간은 예컨대 전술한 마와 같이 원형 큐 형태로 구성될 수도 있다.

한편 상기 저장 공간에 적어도 일부 개수의 클립이 저장된다면, BD-J 지원 컨텐츠 재생 장치는 저장된 클립을 사용자 입력을 기초로 선택하여 재생할 수 있다.

예컨대 사용자가 채널 서비스에 대해서 현재로부터 10분 전의 채널 서비스 내용을 확인하고자 하는 경우, 단계 S270에서 BD-J 지원 컨텐츠 재생 장치는 상기 저장 공간에 저장된 클립 중에서 10분 전의 채널 서비스 내용에 해당하는 클립을 선택하여 관독한 후 해당 클립을 재생할 수 있다.

본 발명에 따르면, BD-J 지원 컨텐츠 재생 장치는 채널 서비스를 제공할 수 있다.

예컨대 본 발명에 따른 BD-J 기반 채널 서비스 제공 방법이 구현된 BD-J 지원 컨텐츠 재생 장치가 플루레이(Blu-Ray) 규격에 따른 디스크 데쳐를 재생하는 장치인 경우를 가정하자.

이 경우 고정 규격 정보는 미리 지정된 개수의 클립을 포함하는 스트림 테이터에 대해서 미리 지정된 BUMF(Binding Unit Manifest File) 정보, SF(Signature File) 정보 및 플레이리스트(Play List) 정보 중 적어도 하나를 포함할 수 있다.
또한 가변 규격 정보는 미리 저장된 개수의 클립 중 적어도 하나의 클립에 대한 클립 정보(Clip Info)를 포함할 수 있다.

중대 기술에 따르면, BD-Live 규격을 이용하여 네트워크를 통하여 영화 컨텐츠 등의 데이터 크기가 미리 저장된 컨텐츠를 제공하는 경우, BUMF(Binding Unit Manifest File) 정보, SF(Signature File) 정보 및 플레이리스트(Play List) 정보 및 클립 정보(Clip Info)를 미리 수신하여 시스템 설정을 수행하여야 한다.

그러나 채널 서비스인 경우 데이터 크기가 미리 저장되지 않기 때문에 클립 정보(Clip Info)를 미리 얻지 못하기 때문에 중대 기술에 따르면 블루레이 플레이어는 채널 서비스를 제공하지 못한다.

그러나 본 발명에 따르면, BD-J 지원 컨텐츠 재생 장치는 우선 BUMF(Binding Unit Manifest File) 정보, SF(Signature File) 정보 및 플레이리스트(Play List) 정보를 수신하여 시스템 설정을 수행한다. 이후 채널 서비스에 대응하는 클립이 채널 서비스를 제공하는 서버에서 생성되며, BD-J 지원 컨텐츠 재생 장치는 해당 클립에 대응하는 클립 정보를 수신하고 해당되는 클립을 수신하여 재생한다.

따라서 본 발명에 따르면 BD-J 지원 컨텐츠 재생 장치는 채널 서비스를 제공할 수 있다.

도 4는 본 발명에 따른 BD-J 기반 채널 서비스 제공 방법을 이용하여 채널 서비스를 제공하는 구성의 예를 나타내는 도면이다. 도 4는 BD-J 지원 컨텐츠 재생 장치 및 채널 서비스를 제공하는 서버를 포함하는 구성이 도시된다.
도 4를 참조하면, 채널 서비스를 제공하는 서버는 예전에 채널 #1 내지 채널 #n의 채널을 포함하는 채널 리스트를 유지한다.

BD-J 지원 컨텐츠 재생 장치로부터 전송되는 채널 선택 사용자 입력에 대응하여, 채널 서비스를 제공하는 서버는 선택된 채널에 대해서 BUMF, SF 및 플레이리스트를 BD-J 지원 컨텐츠 재생 장치에 전송한다.

BD-J 지원 컨텐츠 재생 장치는 BUMF, SF, 플레이리스트를 다운로드한 후 BUDA에 저장한다. 이후 BUDA에 저장한 BUMF, SF, 플레이리스트를 이용하여 디스크 페키지에서 가장 페키지로 페키지 경신을 수행한다.

채널 서비스를 제공하는 서버는 실시간으로 채널 서비스에 대응하는 채널 스트림 데이터를 인코딩한다. 인코딩된 채널 서비스를 제공하는 서버는 채널 스트림 데이터를 구성하는 하나 이상의 클립을 생성하고 클립에 대한 정보 즉 클립 정보를 생성한다. 클립은 채널 서비스에 대응하여 순차적으로 생성될 수 있다.

이후 채널 서비스를 제공하는 서버에서 클립 #1에 대한 클립 정보를 수신한 후, BD-J 지원 컨텐츠 재생 장치는 클립 #1을 수신하여 재생한다. 즉 채널 서비스에 대응하는 스트림을 재생하기 위하여, BD-J 지원 컨텐츠 재생 장치는 해당 스트림에 대응하는 클립 정보를 수신하고 클립 정보를 기초로 클립을 수신하여 재생한다.

BD-J 지원 컨텐츠 재생 장치는 이후 순차적으로 다음 클립에 대해서 클립 정보를 수신한 후 해당 클립을 수신하여 재생한다.
BUMF 정보는 예컨대 클립 #1에서 클립 #n까지의 클립을 순차적으로 수신하여 재생하는 것으로 저장될 수 있다.

즉 채널 서비스를 고정된 형태로 구성하기 위하여 채널 스트림 데이터는 클립 #1 내지 클립 #n으로 구성되도록 미리 저장된다.

그러나 채널 서비스에 대응하여 채널 스트림 데이터는 계속 생성되어야 한다. 따라서 채널 서비스를 제공하는 서버는 클립 #n을 생성한 이후 채널 서비스에 대응하여 클립 #1부터 채널 스트림 데이터를 다시 생성한다.

이에 대응하여 BD-J 지원 컨텐츠 재생 장치는 클립 #n에 대한 클립 정보를 수신하고 클립 #n을 수신하여 재생한 이후, 다시 클립 #1에 대한 클립 정보를 수신하고, 이를 이용하여 클립 #1을 수신하여 재생한다.

따라서 본 방향에 따른 BD-J 기반 채널 서비스 제공 방법은 갱신된 클립에 대한 클립 정보를 수신하고 클립 정보를 통하여 갱신된 클립을 수신하는 구성에 의해서 채널 서비스를 제공할 수 있다.

한편 채널 서비스를 제공하는 서버는 예컨데 채널 #1 내지 채널 #n의 채널을 포함하는 채널 리스트를 유지하고 사용자가 선택한 채널에 대해서 BUMF, SP, 플레이리스트를 BD-J 지원 컨텐츠 재생 장치에 전송하는 기능과, 해당 채널에 대해서 동적으로 생성되며 클립과 클립 정보를 디스크 매체로 전송하는 기능을 포함한다.

이러한 두 가지 기능은 동일한 서버에서 구현될 수도 있지만, 별도의 서버로 분리하여 구현될 수 있다.
즉 채널 서비스를 제공하는 채널 서비스 제공 방법인 채널에 대해서 BUMP, SF, 플레이리스트를 BD-J 지원 컨텐츠 제작 장치에 전송하는 기능을 수행하는 제1 서버와, 해당 채널에 대해서 동적으로 생성되는 클립과 클립 정보를 디스크 메체로 전송하는 기능을 수행하는 제2 서버를 포함하는 형태로 구성될 수 있다.

또한 본 발명은 전술한 본 발명에 따른 BD-J 기반 채널 서비스 제공 방법인 각 단계를 실현시키기 위한 프로그램을 기록한 컴퓨터로 판독 가능한 기록 메체를 제공한다.

컴퓨터로 판독 가능한 기록 메체는 컴퓨터 시스템에 의하여 읽혀질 수 있도록 데이터, 즉 코드 또는 프로그램 형태의 데이터가 저장되는 모든 종류의 기록 장치를 지칭한다. 이러한 컴퓨터로 판독 가능한 기록 메체는 예컨대 ROM, RAM 등의 메모리와, CD-ROM, DVD-ROM 등의 저장 매체, 자기 테이프, 플로피 디스크 등의 자기 저장 매체, 광 데이터 저장 장치 등이며, 에어다 인터넷을 통한 전송 형태로 구현되는 경우도 포함한다. 또한 이러한 컴퓨터로 판독 가능한 기록 메체는 네트워크로 연결된 컴퓨터 시스템에 분산되어 분산 방식으로 컴퓨터가 판독 가능한 데이터가 저장되고 실행될 수 있다.

그러나 이러한 컴퓨터로 판독 가능한 기록 메체에 대한 상세한 설명은 도 2 내지 도 4를 참조로 설명한 본 발명에 따른 BD-J 기반 채널 서비스 제공 방법과 중복되므로 생략한다.

비록 본 발명의 구성이 구체적으로 설명되었지만 이는 단지 본 발명을 예시
적으로 설명한 것에 불과한 것으로, 본 발명이 속하는 기술분야에서 통상의 지식을 가지는 자라면 본 발명의 본질적인 특성에서 벗어나지 않는 범위 내에서 다양한 변형이 가능할 것이다.

따라서 본 명세서에 개시된 실시예들은 본 발명을 한정하기 위한 것이 아니라 설명하기 위한 것이고, 이러한 실시예에 의하여 본 발명의 사상과 범위가 한정되는 것은 아니다. 본 발명의 범위는 아래의 청구범위에 의해 해석되어야 하며, 그와 동등한 범위 내에 있는 모든 기술은 본 발명의 권리범위에 포함되는 것으로 해석되어야 할 것이다.

【산업상이용가능성】

이상 설명한 바와 같이, 본 발명에 따르면 채널 서비스를 나타내는 정보를 고정 규격 정보와 가변 규격 정보로 구분하여 BD-J를 지원하는 컨텐츠 재생 장치에서 채널 서비스를 제공할 수 있다. 특히 본 발명의 범위에 따르면 블루레이 데스크톱을 관독하여 재생하는 블루레이 플레이어 뿐만 아니라 BD-J를 미들웨어로서 사용하는 컨텐츠 재생 장치도 채널 서비스를 제공할 수 있다.
[특허청구범위]

【청구항 1】

(a) 채널 서비스에 대응하는 채널 스트림 데이터에 대해서 고정 규격 정보를 BD-J를 지원하는 컨텐츠 재생 장치로 전송하는 단계와,

(b) 상기 채널 스트림 데이터에 대응하여 생성되는 가변 규격 정보를 상기 컨텐츠 재생 장치로 전송하는 단계와,

(c) 상기 채널 스트림 데이터를 상기 컨텐츠 재생 장치로 전송하는 단계를 포함하는 BD-J 기반 채널 서비스 제공 방법.

【청구항 2】

제1항에 있어서,

상기 단계 (a)는,

(a-1) 상기 컨텐츠 재생 장치로부터 상기 채널 서비스의 제공 요청을 수신하는 단계와,

(a-2) 상기 채널 서비스의 제공 요청에 대응하여 상기 고정 규격 정보를 상기 컨텐츠 재생 장치로 전송하는 단계,

를 포함하는 것인 BD-J 기반 채널 서비스 제공 방법.

【청구항 3】

제1항에 있어서,

상기 단계 (b)는,
(b-1) 상기 컨텐츠 재생 장치로부터 상기 가변 규격 정보의 제공 요청을 수신하는 단계와,

(b-2) 상기 가변 규격 정보의 제공 요청에 대응하여 상기 가변 규격 정보를 상기 컨텐츠 재생 장치로 전송하는 단계

를 포함하는 것인 BD-J 기반 채널 서비스 제공 방법.

【청구항 4】

제1항에 있어서,

상기 채널 스트림 데이터는 상기 채널 서비스에 대응하여 생성되는 미리 지정된 개수의 클립을 포함하는 것이고,

상기 가변 규격 정보는 상기 미리 지정된 개수의 클립 중 적어도 하나의 클립의 생성에 대응하여 생성되는 클립 정보

를 포함하는 것인 BD-J 기반 채널 서비스 제공 방법.

【청구항 5】

제4항에 있어서,

상기 단계 (b)는, (b-3) 상기 미리 지정된 개수의 클립 중에서 적어도 하나의 클립을 생성하는 단계와,

(b-4) 상기 적어도 하나의 클립에 대응하는 상기 클립 정보를 생성하는 단계와,

(b-5) 상기 클립 정보를 상기 컨텐츠 재생 장치로 전송하는 단계
를 포함하는 것이고,

상기 단계 (c)는, (c-1) 상기 컨텐츠 제생 장치로부터 상기 적어도 하나의 클립에 대한 전송 요청을 수신하는 단계와,

(c-2) 상기 전송 요청에 대응하여 상기 적어도 하나의 클립을 상기 컨텐츠 제생 장치로 전송하는 단계

을 포함하는 것인 BD-J 기반 채널 서비스 제공 방법.

【청구항 6】

제4항에 있어서,

상기 단계 (b-3)은, (b-6) 생성된 상기 적어도 하나의 클립을 상기 미리 지정된 개수의 클립에 대해서 설정된 원형 큐(circular queue) 형태의 저장 공간에 저장하는 단계

을 포함하는 것인 BD-J 기반 채널 서비스 제공 방법.

【청구항 7】

제1항에 있어서,

상기 고정 규격 정보는 미리 지정된 개수의 클립을 포함하는 상기 스트림 테이터에 대해서 미리 지정된 BUMF(Binding Unit Manifest File) 정보, SF(Signature File) 정보 및 플레이리스트(Play List) 정보 중 적어도 하나를 포함하는 것이고,

상기 가변 규격 정보는 상기 미리 지정된 개수의 클립 중 적어도 하나의 클립의 생성에 대응하여 생성되는 클립 정보(Clip Info)
룰 포함하는 것인 BD-J 기반 채널 서비스 제공 방법.

【중구항 8】

BD-J를 지원하는 컨텐츠 제생 장치에서의 BD-J 기반 채널 서비스 제공 방법으로서,

(a) 채널 서비스에 대한하는 채널 스트림 데이터에 대해서 고정 규격 정보를 수신하는 단계와,

(b) 상기 고정 규격 정보를 기초로 상기 채널 서비스의 제공을 위한 시스템 설정을 수행하는 단계와,

(c) 상기 채널 스트림 데이터에 대해서 생성되는 가변 규격 정보를 수신하는 단계와,

(d) 상기 고정 규격 정보 및 가변 규격 정보를 기초로 상기 채널 스트림 데이터를 수신하여 제생하는 단계

를 포함하는 BD-J 기반 채널 서비스 제공 방법.

【중구항 9】

제8항에 있어서,

상기 단계 (a)는, (a-1) 상기 채널 서비스를 선택하는 사용자 입력을 수신하는 단계와,

(a-2) 상기 채널 서비스를 제공하는 서버에게 상기 채널 서비스의 제공 요청을 전송하는 단계와,
(a-3) 상기 서버로부터 상기 고정 규격 정보를 수신하는 단계

를 포함하는 것인 BD-J 기반 채널 서비스 제공 방법.

【서구항 10】

제8항에 있어서,

상기 단계 (b)는, (b-1) 상기 고정 규격 정보를 기초로 상기 채널 스트림 데이터를 재생하기 위한 가상 패키지를 설정하는 단계

를 포함하는 것인 BD-J 기반 채널 서비스 제공 방법.

【서구항 11】

제8항에 있어서,

상기 단계 (c)는, (c-1) 상기 채널 서비스를 제공하는 서버에게서 상기 가변 규격 정보의 제공 요청을 전송하는 단계와,

(c-2) 상기 서버로부터 상기 가변 규격 정보를 수신하는 단계

를 포함하는 것인 BD-J 기반 채널 서비스 제공 방법.

【서구항 12】

제8항에 있어서,

상기 채널 스트림 데이터는 상기 채널 서비스에 대응하여 생성되는 미리 지정된 개수의 클립을 포함하는 것이고.

상기 가변 규격 정보는 상기 미리 지정된 개수의 클립 중 적어도 하나의 클립의 생성에 대응하여 생성되는 클립 정보.
를 포함하는 것인 BD-J 기반 채널 서비스 제공 방법.

【청구항 13】

제12항에 있어서,

상기 단계 (c)는, (c-3) 상기 클립 정보를 수신하는 단계를 포함하는 것이고,

상기 단계 (d)는, (d-1) 상기 클립 정보에 대응하는 상기 적어도 하나의 클립을 수신하여 재생하는 단계를 포함하는 것인 BD-J 기반 채널 서비스 제공 방법.

【청구항 14】

제12항에 있어서,

상기 고정 규칙 정보는 상기 미리 저장된 개수의 클립에 대해서 재생 순서 정보를 포함하는 것이고,

상기 단계 (c)는, (c-4) 상기 재생 순서 정보를 기초로 상기 클립 정보를 수신하는 단계를 포함하는 것이고,

상기 단계 (d)는, (d-2) 상기 클립 정보에 대응하는 상기 적어도 하나의 클립을 수신하여 재생하는 단계를 포함하는 것인 BD-J 기반 채널 서비스 제공 방법.

【청구항 15】

제14항에 있어서.
상기 단계 (d)는, (d-3) 상기 미리 저장된 개수의 클립에 대해서 미리 설정된 저장 공간에 상기 적어도 하나의 클립을 저장하는 단계.

을 포함하는 것인 BD-J 기반 채널 서비스 제공 방법.

【청구항 16】

제15항에 있어서.

상기 단계 (d-3)는, (d-3) 원형 큐 형태로 구성되는 상기 저장 공간에 상기 적어도 하나의 클립을 저장하는 단계.

을 포함하는 것인 BD-J 기반 채널 서비스 제공 방법.

【청구항 17】

제15항에 있어서.

상기 단계 (d)는, (d-4) 상기 저장 공간에 저장된 상기 미리 저장된 개수의 클립 중에서 사용자 입력을 기초로 선택되는 클립을 발독하여 재생하는 단계.

을 포함하는 것인 BD-J 기반 채널 서비스 제공 방법.

【청구항 18】

제8항에 있어서.

상기 고정 규격 정보는 미리 저장된 개수의 클립을 포함하는 상기 스트림 데이터에 대해서 미리 저장된 BUMF(Binding Unit Manifest File) 정보, SF(Signature File) 정보 및 플레이리스트(Play List) 정보 중 적어도 하나를 포함하는 것이고.

상기 가변 규격 정보는 상기 미리 저장된 개수의 클립 중 적어도 하나의 클립.
립의 생성에 대응하여 생성되는 클립 정보(Clip Info)

를 포함하는 것인 BD-J 기반 채널 서비스 제공 방법.

【청구항 19】

제1항 내지 제18항 중 어느 한 항에 따른 BD-J 기반 채널 서비스 제공 방법의 각 단계를 실험시키기 위한 프로그램을 기록한 컴퓨터로 판독 가능한 기록 매체.

【도면의 간단한 설명】

<161> 도 1은 중래 기술에 따른 BD-J 지원 컨텐츠 채널 환경에서 네트워크를 이용하여 컨텐츠를 수신하여 생성하는 구성의 예를 나타내는 도면.

<162> 도 2는 본 발명에 따른 BD-J 기반 채널 서비스 제공 방법의 예시적인 흐름도.

<163> 도 3은 본 발명에 따른 BD-J 기반 채널 서비스 제공 방법의 다른 예시적인 흐름도.

<164> 도 4는 본 발명에 따른 BD-J 기반 채널 서비스 제공 방법을 이용하여 채널 서비스를 제공하는 구성의 예를 나타내는 도면.
【도면】

【도 1】

BUMF
SF
플레이리스트
클립 정보

가상 페키지
클립 다운로드 및 재생

페키지 멤버 관리
다운로드

BUDA

(중계 기술)

【도 2】

시작

채널 스트림 데이터에 대해서 고정 규칙 정보 전송 S110

채널 스트림 데이터에 대해서 가변 규칙 정보 전송 S130

채널 스티림 데이터를 전송 S160

출처
20529
THE NATH LAW GROUP
112 South West Street
Alexandria, VA 22314

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

Applicant(s)
Wonjang Baek, Seongnam-si, KOREA, REPUBLIC OF;
John Kim, Seoul, KOREA, REPUBLIC OF;
Seong Baek Lee, Seoul, KOREA, REPUBLIC OF;

Assignment For Published Patent Application
DREAMER, Burbank, CA

Power of Attorney: The patent practitioners associated with Customer Number 20529

Domestic Priority data as claimed by applicant

Foreign Applications
REPUBLIC OF KOREA 10-2008-0058198 06/20/2008

Request to Retrieve - This application either claims priority to one or more applications filed in an intellectual property Office that participates in the Priority Document Exchange (PDX) program or contains a proper Request to Retrieve Electronic Priority Application(s) (PTO/SB/38 or its equivalent). Consequently, the USPTO will attempt to electronically retrieve these priority documents.

If Required, Foreign Filing License Granted: 06/30/2009
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is US 12/457,508

Projected Publication Date: 12/24/2009
Non-Publication Request: No
Early Publication Request: No
** SMALL ENTITY **
PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

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

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

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

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

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

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

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

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

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).
APPLICATION ELEMENTS
See MPEP chapter 600 concerning utility patent application contents.

1. Fee Transmittal Form (e.g., PTO/SB/17)
   (Submit an original and a duplicate for fee processing)
2. Applicant claims small entity status.
   See 37 CFR 1.27.
3. Specification
   [Total Pages 22]
   Both the claims and abstract must start on a new page
   (For information on the preferred arrangement, see MPEP 608.01(a))
4. Drawing(s) (35 U.S.C. 113)
   [Total Sheets 3]
5. Oath or Declaration
   [Total Sheets 2]
   a. Newly executed (original or copy)
   b. A copy from a prior application (37 CFR 1.63(d))
      (for continuation/divisional with Box 18 completed)
5(i). DELETION OF INVENTOR(S)
      Signed statement attached deleting inventor(s)
      name in the prior application, see 37 CFR
      1.63(d)(2) and 1.53(b).
6. Application Data Sheet. See 37 CFR 1.76
7. CD-ROM or CD-R in duplicate, large table or
   Computer Program (Appendix)
   a. Landscape Table on CD
8. Nucleotide and/or Amino Acid Sequence Submission
   (If applicable, items a. - c. are required)
   a. Computer Readable Form (CRF)
   b. Specification Sequence Listing on:
      i. CD-ROM or CD-R (2 copies); or
      ii. Paper
   c. Statements verifying identity of above copies

ADDRESS TO:
Commissioneer for Patents
P.O. Box 1450
Alexandria VA 22313-1450

ACCOMPANYING APPLICATION PARTS
9. Assignment Papers (cover sheet & document(s))
   Name of Assignee DREAMER

10. 37 CFR 3.73(b) Statement
     Power of Attorney
     (when there is an assignee)

11. English Translation Document (if applicable)

12. Information Disclosure Statement (PTO/SB/08 or PTO-1449)
    Copies of foreign patent documents,
    publications, & other information

13. Preliminary Amendment

14. Return Receipt Postcard (MPEP 503)
    (Should be specifically itemized)

15. Certified Copy of Priority Document(s)
    (If foreign priority is claimed)

    Applicant must attach form PTO/SB/35 or equivalent.

17. Other: Transmittal Letter, Check

18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:
   Continuation
   Divisional
   Continuation-in-part (CIP)
   of prior application No.:
   Prior application information: Examiner Art Unit:

19. CORRESPONDENCE ADDRESS
The address associated with Customer Number: 20529 OR Correspondence address below

Name
Address
City State Zip Code
Country Telephone Email

Signature Date June 12, 2009
Name (Print/Type) Jerald L. Meyer Registration No. (Attorney/Agent) 41,194

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

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.
**FEE TRANSMITTAL**
For FY 2009

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**METHOD OF PAYMENT**
(check all that apply)

- [ ] Check
- [ ] Credit Card
- [ ] Money Order
- [ ] None
- [ ] Other (please identify): ____________
  Deposit Account: 14-0112
  Deposit Account Name: THE NATH LAW GROUP

**FEE CALCULATION**

1. **BASIC FILING, SEARCH, AND EXAMINATION FEES**

   **FILING FEES**
   - Utility: 330
   - Design: 220
   - Plant: 220
   - Reissue: 330
   - Provisional: 220

   **SEARCH FEES**
   - Utility: 165
   - Design: 110
   - Plant: 110
   - Reissue: 165
   - Provisional: 110

   **EXAMINATION FEES**
   - Utility: 540
   - Design: 100
   - Plant: 330
   - Reissue: 540
   - Provisional: 0

   **Fees Paid ($):** $545.00

2. **EXCESS CLAIM FEES**

   **Fee Description**
   - Each claim over 20 (including Reissues): 52
   - Each independent claim over 3 (including Reissues): 220
   - Multiple dependent claims: 390

   **Total Claims**
   - 20 or HP = 0
   - HP = highest number of total claims paid for, if greater than 20

   **Extra Claims**
   - 0

   **Fee Paid ($):** $0.00

3. **APPLICATION SIZE FEE**

   - Total Sheets = 25 - 100
     - Extra Sheets = 0
     - Number of each additional 50 or fraction thereof = 0
     - Fee ($) = $135
     - Fees Paid ($) = $0.00

4. **OTHER FEE(S)**

   - Non-English Specification, $130 fee (no small entity discount)
   - Other (e.g., late filing surcharge): Assignment Recordation Fee

**SUBMITTED BY**

<table>
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<tr>
<th>Signature</th>
<th>Jerald L. Meyer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration No.</td>
<td>41,194</td>
</tr>
<tr>
<td>Telephone</td>
<td>(703) 548-6284</td>
</tr>
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Date: June 12, 2009

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

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

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Wonjang BAEK, et al.                   Conf. No.: Not Yet Assigned

Appl. No.: Not Yet Assigned          Examiner: Not Yet Assigned

Filed: June 14, 2009               Group Art Unit: Not Yet Assigned

For: METHOD FOR PROVIDING CHANNEL SERVICE

TRANSMITTAL LETTER

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

Dear Commissioner:

Submitted herewith for filing in the U.S. Patent and Trademark Office is the following:

(1) PTO/SB/05 (Utility Patent Application Transmittal), one (1) page;

(2) PTO/SB/17 (Fee Transmittal), one (1) page;

(3) Application Data Sheet, six (6) pages;

(4) Utility Patent Application, twenty-five (25) pages, consisting of:

  17 pages of Textual Specification,

  4 pages of 18 Claims,

  1 page for the Abstract, and

  3 sheets of Drawings;

(5) One (1) Executed Declaration and Power of Attorney, two (2) pages;

(6) One (1) Executed Assignment, two (2) pages, with a Recordation Cover
Sheet, one (1) page, in favor of DREAMER of Burbank, California;

(7) Our check no. 8432 in the amount of $585.00 for the statutory filing ($165.00), search ($270.00), and examination ($110.00) fees as a small entity, as well as the recordation fee ($40.00); and

(8) Request for Early Notification of the Serial Number.

Please charge any fee deficiency or credit any overpayment to Deposit Account No. 14-0112.

Respectfully submitted,

THE NATH LAW GROUP

Jerald L. Meyer
Registration No. 41,194
Derek Richmond
Registration No. 45,771
Customer No. 20529

Date: June 12, 2009
THE NATH LAW GROUP
112 S. West Street
Alexandria, Virginia 22314
Tel: (703) 548-6284
Fax: (703) 683-8396
JLM/DR/vbd
Utility Patent Application Transmittal

(Only for new nonprovisional applications under 37 CFR 1.53(b))

APPLICATION ELEMENTS
See MPEP chapter 600 concerning utility patent application contents.

1. ✔ Fee Transmittal Form (e.g., PTO/SB/17)
   (Submit an original and a duplicate for fee processing)
2. ✔ Applicant claims small entity status.
   See 37 CFR 1.27.
3. ✔ Specification
   [Total Pages 22]
   Both the claims and abstract must start on a new page
   (For information on the preferred arrangement, see MPEP 608.01(a))
4. ✔ Drawing(s) (35 U.S.C. 113)
   [Total Sheets 3]
5. ✔ Oath or Declaration
   [Total Sheets 2]
   a. ✔ Newly executed (original or copy)
   b. ✔ A copy from a prior application (37 CFR 1.63(d))
      (for continuation/divisional with Box 18 completed)
      i. ✔ DELETION OF INVENTOR(S)
         (Signed statement attached deleting inventor(s)
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         1.63(d)(2) and 1.53(b).
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7. □ CD-ROM or CD-R in duplicate, large table or
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6. ✔ Landscape Table on CD
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   b. ✔ Specification Sequence Listing on:
      i. ✔ CD-ROM or CD-R (2 copies); or
      ii. ✔ Paper
   c. ✔ Statements verifying identity of above copies

ADDRESS TO: Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

ACCOMPANYING APPLICATION PARTS

9. ✔ Assignment Papers (cover sheet & document(s))
   Name of Assignee DREAMER

10. □ 37 CFR 3.73(b) Statement
    (when there is an assignee)
    Power of Attorney

11. □ English Translation Document (if applicable)

12. □ Information Disclosure Statement (PTO/SB/08 or PTO-1449)
    Copies of foreign patent documents,
    publications, & other information

13. □ Preliminary Amendment

14. ✔ Return Receipt Postcard (MPEP 503)
    (Should be specifically itemized)

15. □ Certified Copy of Priority Document(s)
    (if foreign priority is claimed)

    Applicant must attach form PTO/SB/35 or equivalent.

17. □ Other: Transmittal Letter, Check

18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:
   a. ✔ Continuation
   b. □ Divisional
   c. □ Continuation-in-part (CIP)
   Art Unit:

19. CORRESPONDENCE ADDRESS
   ✔ The address associated with Customer Number: 20529
   OR □ Correspondence address below

Name

Address
City State Zip Code
Country

Telephone Email

Signature Date June 12, 2009

Name (Print/Type) Jerald L. Meyer
Registration No. (Attorney/Agent) 41,194

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

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Word Version Copyright 2007 Forms in Word (www.formsinnword.com)
**FEE TRANSMITTAL**
For FY 2009

**Complete if Known**

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**METHOD OF PAYMENT (check all that apply)**

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- [ ] Charge fee(s) indicated below, except for the filing fee
- [ ] Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17
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**WARNING**: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

**FEE CALCULATION**

1. **BASIC FILING, SEARCH, AND EXAMINATION FEES**

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2. **EXCESS CLAIM FEES**

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3. **APPLICATION SIZE FEE**

   If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $270 ($135 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).

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4. **OTHER FEE(S)**

   - Non-English Specification, $130 fee (no small entity discount)
   - Other (e.g., late filing surcharge): Assignment Recordation Fee $40.00

**SUBMITTED BY**

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<tr>
<td>Name (Print/Type)</td>
<td>Registration No. 41,194</td>
</tr>
<tr>
<td>(Attorney/Agent)</td>
<td>Telephone (703) 548-6284</td>
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| Date | June 12, 2009 |

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

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Wonjang BAEK, et al. Conf. No.: Not Yet Assigned
Appl. No.: Not Yet Assigned Examiner: Not Yet Assigned
Filed: June 16, 2009 Group Art Unit: Not Yet Assigned

For: METHOD FOR PROVIDING CHANNEL SERVICE

TRANSMITTAL LETTER

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

Dear Commissioner:

Submitted herewith for filing in the U.S. Patent and Trademark Office is the following:

(1) PTO/SB/05 (Utility Patent Application Transmittal), one (1) page;
(2) PTO/SB/17 (Fee Transmittal), one (1) page;
(3) Application Data Sheet, six (6) pages;
(4) Utility Patent Application, twenty-five (25) pages, consisting of:
   17 pages of Textual Specification,
   4 pages of 18 Claims,
   1 page for the Abstract, and
   3 sheets of Drawings;
(5) One (1) Executed Declaration and Power of Attorney, two (2) pages;
(6) One (1) Executed Assignment, two (2) pages, with a Recordation Cover
Sheet, one (1) page, in favor of DREAMER of Burbank, California;

(7) Our check no. 8432 in the amount of $585.00 for the statutory filing ($165.00), search ($270.00), and examination ($110.00) fees as a small entity, as well as the recordation fee ($40.00); and

(8) Request for Early Notification of the Serial Number.

Please charge any fee deficiency or credit any overpayment to Deposit Account No. 14-0112.

Respectfully submitted,

THE NATH LAW GROUP

Jerald L. Meyer
Registration No. 41,194
Derek Richmond
Registration No. 45,771
Customer No. 20529

Date: June 12, 2009
THE NATH LAW GROUP
112 S. West Street
Alexandria, Virginia 22314
Tel: (703) 548-6284
Fax: (703) 683-8396
JLM/DR/vbd
APPLICATION DATA SHEET

Application Information

Application Number:: Not Yet Assigned
Filing Date:: June 12, 2009
Application Type:: Non-Provisional
Subject Matter:: Utility
Suggested Classification::
Suggested Group Art Unit::
CD-ROM or CD-R?:: None
Number of CD disks:: 0
Number of copies of CDs:: 0
Sequence submission?:: No
Computer Readable Form (CRF):: No
Number of copies of CRF:: 0
Title:: METHOD FOR PROVIDING CHANNEL SERVICE
Attorney Docket Number:: 30224U
Request for Early Publication?:: No
Request for Non-Publication?:: No
Suggested Drawing Figure::
Total Drawing Sheets:: 3
Small Entity?:: Yes
Latin name::
Variety denomination name::

Petition included?:: No

Petition Type:: N/a

Licensed U.S. Govt. Agency:: N/a

Contract or Grant Numbers:: N/a

Secrecy Order in Parent Appl.?:: No

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Middle Name::

Family Name:: BAEK

Name Suffix::

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State or Province of Residence::

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Postal Code of mailing address:: 463-731

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Family Name:: KIM
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State or Province of Residence::
Country of Residence:: KR
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City of mailing address:: Seoul
State/Province of mailing address::
Country of mailing address:: KR
Postal Code of mailing address:: 152-720

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Name Suffix::
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State or Province of Residence::
Country of Residence:: KR
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                                      Yangcheon-gu
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State/Province of mailing address::
Country of mailing address:: KR
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**Fax number:** (703) 683-8396  
**E-Mail address:** ip@nathlaw.com

**Representative Information**

**Representative Customer Number:** 20529

**Domestic Priority Information**

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Assignee Information

Assignee name:: DREAMER

Street of mailing address:: 3500 W. Olive Avenue, Suite 990

City of mailing address:: Burbank

State/Province of mailing address:: California

Country of mailing address:: US

Postal Code of mailing address:: 91505

Signature::

Signature::

First Name:: Jerald L. Last Name:: Meyer

Registration No.: 41,194 Date (MM/DD/YY):: 06/12/09
METHOD FOR PROVIDING CHANNEL SERVICE

This application claims the benefit of Korean Patent Application No. 10-2008-0058198 filed on June 20, 2008, which is hereby incorporated for reference.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a method for providing a channel service, and more particularly to a method for providing a channel service wherein a fixed information and a variable information associated with a streaming data of a channel service are transmitted to a playback apparatus supporting a BD-J specification to enable a streaming of the channel service.

2. Description of the Related Art

A Blu-ray specification is designed by Blu-ray Disc Association ("BDA"), whose members include Sony, Hitachi and Sharp. The Blu-ray specification includes a specification of a Blu-ray disk which is an optical disc that may be read and recorded using a blue laser.

While a diameter and a thickness of the Blu-ray disk, which are 12 cm and 1.2 mm, respectively, are same as those of conventional CD (Compact Disc) and DVD (Digital Versatile Disc), a storage capacity thereof is larger than those of the conventional CD and DVD.
Because the blue laser having a wavelength of 405 nm is used for reading the Blu-ray disk instead of a red laser having a wavelength of 650 nm used for reading the DVD, more data can be stored in the Blu-ray disk than the DVD.

Specifically, a single layer Blu-ray disk is capable of storing up to 25 GB of a data and a dual layer Blu-ray disk is capable of storing up to 50 GB of the data. This means that the Blu-ray disk can store five times more data than the DVD.

Moreover, a quad layer Blu-ray disk and an octal layer Blu-ray disk can store up to 100 GB and 200 GB, respectively.

The Blu-ray disk supports a video compression codec of MPEG-2 which is widely used in the DVD. Moreover, BDA standard specification requires the Blu-ray disk to use H.264/AVC or VC-1 as the video compression codec which provides improved compression ratio compared to MPEG-2.

In addition, the Blu-ray disk supports audio formats such as Dolby Digital Plus, Dolby TrueHD and DTS-HD Master Audio as well as PCM (Pulse-code modulation), Dolby Digital and DTS.

A Blu-ray player supporting a BD-J specification supports an interactive service based on JAVA. Moreover, the Blu-ray player supporting the BD-J specification supports a network connectivity, a PIP(Picture-In-Picture) and a connection to a local storage.

A Blu-ray player supporting a BD-Live specification is capable of playing the streaming data received through a network communication in addition to capabilities of the Blu-ray player supporting a BD-J specification.

A Virtual File System ("VFS") enables a playback of a data which is not stored in
the Blu-ray disk. Specifically, the VFS configures a virtual package on the Blu-ray player to enable the Blu-ray player to play the streaming data received through a USB or the network communication as if the streaming data is stored in the Blu-ray disk.

Hereinafter, "a playback apparatus supporting the BD-J specification" includes the Blu-ray player supporting the BD-J specification or an apparatus using a middleware supporting the BD-J specification such as a TV, a set-top box, a PMP (Portable Multimedia Player), a video game console, a PC (Personal Computer) and a PVR (Personal Video Recorder).

The apparatus using the middleware supporting the BD-J specification is not required to have a Blu-ray disk reading capability.

Fig. 1 is a diagram illustrating a configuration for providing an audio/video data in accordance with a conventional method.

A content providing server generates a BUMF (Binding Unit Manifest File) information, an SF (Signature File) information, a playlist information, a clip information and a movie clip according to the BD-J specification.

The BUMF information defines a configuration of a virtual package in XML (Extensible Markup Language) format. For instance, the BUMF information includes a file name information and a binding information on the movie clip included in the audio/video data received from the content providing server.

The SF information is used for verifying a validity of the BUMF information. The SF information uses SHA (Secure Hash algorithm)-1.

The playlist information includes an information on the audio/video data to be
played. For instance, the playlist information includes a playback sequence information, a
PlayItem information and a PlayListMark information on the movie clip included in the
audio/video data.

The clip information includes an information required for playing the movie clip.
For instance, the clip information includes a stream format information of the
corresponding clip, a number of packets included in the corresponding clip, an encoding
specification of the corresponding clip and a time stamp information.

The playback apparatus stores the BUMF information, the SF information, the
playlist information and the clip information received from the content providing server in
a BUDA (Binding Unit Data Area). The playback apparatus carries out a package update
from a disk package to the virtual package based on the BUMF information, the SF
information, the playlist information and the clip information stored in the BUDA. That is,
the playback apparatus is configured to play the audio/video data received from the content
providing server instead of playing a data stored in the Blu-ray disk.

When the playback apparatus is fully configured, the playback apparatus receives
and plays the audio/video data from the content providing server.

In order to play the audio/video data received from the content providing server,
the playback apparatus must identify a size of the audio/video data, the number of clips
included in the audio/video data, a encoding algorithm of the clip and a validity verification
information by receiving the BUMF information, the SF information, the playlist
information and the clip information from the content providing server.

However, in case of the channel service such as a live broadcasting wherein the
audio/video data is continuously generated and transmitted in real time, the BUMF information, the SF information, the playlist information and the clip information cannot be generated for the audio/video data that constantly changes with time.

Without the BUMF information, the SF information, the playlist information and the clip information, the playback apparatus cannot carry out the package update from the disk package to the virtual package. As a result, the audio/video data of the channel service cannot be played by the playback apparatus.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide a method for providing a channel service wherein a fixed information and a variable information associated with a streaming data of a channel service is transmitted to a playback apparatus supporting a BD-J specification, to enable a streaming of the channel service.

In order to achieve above-described object of the present invention, there is provided a method for providing a channel service, the method comprising steps of: (a) transmitting a fixed information associated with a streaming data of the channel service to a playback apparatus supporting a BD-J specification; (b) transmitting a variable information associated with the streaming data to the playback apparatus; and (c) transmitting the streaming data to the playback apparatus.

Preferably, the step (a) comprises transmitting the fixed information to the playback apparatus according to a request for the channel service received from the playback apparatus.
Preferably, the step (b) comprises transmitting the variable information to the playback apparatus according to a transmission request for the variable information received from the playback apparatus.

Preferably, the variable information includes a clip information corresponding to each of one or more clips included in the streaming data.

Preferably, the step (b) comprises transmitting the clip information to the playback apparatus, and wherein the step (c) comprises transmitting one of the one or more clips corresponding to the clip information to the playback apparatus according to the transmission request.

Preferably, the step (b) comprises storing the one or more clips in a circular queue in a storage space.

Preferably, the fixed information includes at least one of a BUMF information, an SF information and a playlist information associated with the streaming data.

There is also provided a method for providing a channel service using a playback apparatus supporting a BD-J specification, the method comprising steps of: (a) receiving a fixed information associated with a streaming data of the channel service; (b) configuring the playback apparatus for a playback of the streaming data based on the fixed information; (c) receiving a variable information associated with the streaming data; and (d) playing the streaming data based on the fixed information and the variable information.

Preferably, the step (a) comprises receiving the fixed information from a channel service providing server according to a request for the channel service included in a user input.
Preferably, the step (b) comprises configuring a virtual package for the playback of the streaming data based on the fixed information.

Preferably, the step (c) comprises receiving the variable information transmitted from a channel service providing server according to a request for the fixed information.

Preferably, the variable information includes a clip information corresponding to each of one or more clips included in the streaming data.

Preferably, the step (c) comprises receiving the clip information, and wherein the step (d) comprises playing one of the one or more clips corresponding to the clip information.

Preferably, the fixed information includes a playback sequence information on the one or more clips, and wherein the step (d) comprises playing the one or more clips according to the playback sequence information.

The method in accordance with the present invention may further comprising (e) storing the one or more clips including the streaming data in a storage space.

Preferably, the one or more clips stored in the storage space are in a circular queue.

Preferably, the step (d) comprises reading and playing at least one of the one or more clips stored in the storage space, the at least one being selected according to a user input.

Preferably, the fixed information includes at least one of a BUMF information, an SF information and a playlist information associated with the streaming data.

BRIEF DESCRIPTION OF THE DRAWINGS
Fig. 1 is a diagram illustrating a configuration for receiving a multimedia content via a network in a conventional playback apparatus supporting a BD-J specification.

Fig. 2 is a flow diagram illustrating a method for providing a channel service in accordance with the present invention.

Fig. 3 is a diagram illustrating a configuration for providing a channel service using a method for providing a channel service in accordance with the present invention.

DETAILED DESCRIPTION OF THE INVENTION

A method for providing a channel service in accordance with the present invention will be described in detail with reference to accompanied drawings.

Fig. 2 is a flow diagram illustrating a method for providing a channel service in accordance with the present invention.

Referring to Fig. 2, a playback apparatus supporting a BD-J specification receives a user input for selecting a channel service from a user (S100).

Specifically, the playback apparatus provides an information related to the channel service transmitted by a channel service providing server to the user via a display. The user refers to the displayed information related to the channel service to select a desired channel service. The user input may be generated by using a keypad of a control device for controlling the playback apparatus such as a remote control to select the desired channel service.

Thereafter, the playback apparatus generates a request for the channel service according to the user input and transmits the request to the channel service providing server
For instance, when the channel service providing server provides ten channel services including a first channel through a tenth channel, the user may manipulate the keypad to select the fifth channel. The playback apparatus then generates the request for the channel service of the selected channel, i.e. the fifth channel, and transmit the request to the channel service providing server.

Thereafter, the channel service providing server transmits a fixed information associated with a streaming data of the selected channel service to the playback apparatus (S120).

The fixed information is an information on a format of the streaming data. Since the fixed information relates to a structure of the streaming data, one or more clips are generated from the streaming data by referring to the fixed information.

The fixed information is generated by the channel service providing server. That is, the channel service providing server may configure the fixed information in a manner that the streaming data includes the one or more clips having a certain size or a certain length or a certain number of clips.

It is preferable that the fixed information includes a BUMF (Binding Unit Manifest File) information, a SF (Signature File) information and a playlist information.

In addition, the fixed information may include a signature information and a download information of the streaming data.

Specifically, the signature information enables a verification of a validity of the streaming data. That is, the validity of clips includes in the streaming data may be verified
via the signature information.

The download information includes an order for downloading the one or more clips included in the streaming data. The one or more clips are downloaded and played according to the download information. For instance, when the streaming data includes a first clip to a hundredth clip, the first clip is downloaded and played. While the first clip is played, the second clip is downloaded. After the first clip is completely played, the second clip is played. While the second clip is played, the third clip is downloaded. The playback apparatus provides the one or more clips to the user according to the download information.

Thereafter, the playback apparatus is configured to play the streaming data based on the fixed information (S130).

Specifically, the playback apparatus extracts an information on a format of the streaming data from the fixed information transmitted from the channel service providing server, and a virtual package is configured for the playback of the streaming data.

For instance, the playback apparatus capable of reading a blu-ray disk may be configured to play the streaming data received from the channel service providing server using the fixed information instead of playing a content of the blu-ray disk. The playback apparatus supporting the BD-J specification incapable of reading the blu-ray disk may also be configured to play the streaming data received from the channel service providing server using the fixed information.

Thereafter, the channel service providing server generates the one or more clips from the streaming data according to the fixed information (S140).

For instance, when the channel service selected by the user is a live broadcasting of
sport event, the channel service providing server may generate the streaming data including the one or more clips according to the fixed information associated with the live broadcasting. The one or more clips included in the streaming data may be progressively generated to correspond to the live broadcasting.

When the fixed information is configured to provide the channel service using the first clip through the hundredth clip, the channel service providing server converts the streaming data of the live broadcasting to the first clip through the hundredth clip which are provided to the playback apparatus.

However, since the fixed information is unchangeable, the streaming data which lasts long time cannot be transmitted.

For instance, when the variable information is configured to transmit one hundred clips for the streaming data which lasts two hours, the channel service continuously providing sport events for 24 hours cannot provide the streaming data after two hours.

In order to overcome the limitation, the first clip through the hundredth clip are generated from first two hours of the streaming data, and another first clip through hundredth clip are generated from second two hours of the streaming data.

For instance, when the live broadcasting is provided from 11:00 AM to 3:00 PM, the channel service providing server generates the first clip through the hundredth clip from the streaming data corresponding to the live broadcasting of 11:00 AM to 1:00 PM. Thereafter, the channel service providing server generates another first clip through hundredth clip from the streaming data corresponding to the live broadcasting of 1:00 PM to 3:00 PM.
Through above-described process, the streaming data which lasts long time may be provided even when a fixed number of clips are used.

Thereafter, the playback apparatus transmits the request for a variable information to the channel service providing server (S150).

Thereafter, the channel service providing server generates the variable information including a clip information associated with each of the one or more clips when a request for the variable information is received (S160).

For instance, in case of the streaming data containing the first clip through the hundredth clip, the variable information including the clip information associated with each of the first clip through the hundredth clip may be generated.

In addition, the channel service providing server may generate the variable information including the clip information associated with a portion of the first clip through the hundredth clip. For instance, when only the generations of the first clip through the tenth clip out of the first clip through the hundredth clip are complete, the variable information including the clip information associated with the first clip through the tenth clip may be generated. That is, the variable information associated with only the generated clip may be generated even before an entirety of the one or more clips is generated.

The variable information is an information on each of the one or more clips generated in the step S140, which may change according to a size or a length of each clip. In addition, the variable information may include a stream format information of each clip, the number of packets included in each clip, an encoding specification of each clip and a time stamp information.
Further, the variable information may include an information for verifying a validity of each clip.

Thereafter, the channel service providing server transmits the variable information to the playback apparatus (S170).

Thereafter, the channel service providing server stores the streaming data including the one or more clips in a storage space of the channel service providing server (S180).

Preferably, the channel service providing server may store the one or more clips in circular queue.

As describe above, the streaming data which lasts long time should be converted to the fixed number of clips since the fixed information is unchangeable.

The fixed number of clips are stored in the storage space in circular queue.

For instance, the first clip through the hundredth clip are generated from the first two hours of the streaming data and are sequentially stored in a first slot through a hundredth slot of the storage space in circular queue. The next first clip through the hundredth clip are generated from the second two hours of the streaming data and are stored in the first slot through the hundredth slot of the storage space in circular queue by overwriting the first clip through the hundredth clip generated from the first two hours of the streaming data.

Therefore, clips generated from the last two hours of the streaming data are always stored in the storage space, and any clips within the last two hours can be provided to the user.

The reason for storing the one or more clips in the storage space in circular queue
is to increase an efficiency of the storage space and prevent a deficiency of the storage space.

Thereafter, the channel service providing server transmits the streaming data including the one or more clips to the playback apparatus (S190).

Specifically, the playback apparatus generates a transmission request for the one or more clips corresponding to the clip information included in the variable information transmitted by the channel service providing server. Upon receiving the transmission request, the channel service providing server transmits the clip corresponding to the clip information according to the transmission request.

Thereafter, the playback apparatus receives the streaming data of the channel service and stores the streaming data in a storage space of the playback apparatus (S200).

For example, the playback apparatus may store the one or more clips transmitted by the channel service providing server according to the transmission request in circular queue.

Since a scheme for storing the one or more clips in circular queue in the storage space of the playback apparatus is identical to that of the channel service providing server, a detailed description is omitted.

Thereafter, the streaming data including the one or more clips is played by the playback apparatus (S210). Specifically, the playback apparatus reads and plays the clip corresponding to the channel service selected by the user from the storage space.

A configuration for providing the channel service in accordance with the present invention will be described in detail with reference to Fig. 3.
Fig. 3 is a diagram illustrating the configuration for providing the channel service using the method for providing the channel service in accordance with the present invention.

Referring to Fig. 3, a channel list containing a first channel to a $m^{th}$ channel is stored in the channel service providing server.

The user selects the desired channel service by referring to the channel list displayed by the playback apparatus supporting the BD-J specification via the display.

The playback apparatus generates the request for the channel service selected by the user and transmits the request to the channel service providing server.

The channel service providing server transmits the BUMF information, the SF information and the playlist information for the selected channel service in response to the request transmitted by the playback apparatus.

The playback apparatus receives and stores the BUMF information, the SF information and the playlist information in a BUDA. The playback apparatus then carries out a package update from a disk package to the virtual package based on the BUMF information, the SF information and the playlist information stored in the BUDA.

The channel service providing server encodes the streaming data for the channel service in real-time. Specifically, the channel service providing server the channel service providing server generates the one or more clips constituting the streaming data and also generates the clip information for each of the one or more clips. The one or more clips may be generated progressively.

The playback apparatus receives, from the channel service providing server, and plays the first clip after receiving the first clip information for the first clip. That is, in order
to play the streaming data, the playback apparatus receives the clip corresponding to the clip information after receiving the clip information associated with the streaming data of the selected channel service. The playback apparatus successively receives the clip information for a next clip, and then receives and plays the next clip corresponding to the clip information.

For instance, when BUMF information is configured in a manner that a first clip through an \( n^{th} \) clip are sequentially received and played, the channel service providing server constitutes the streaming data to include the first clip through the \( n^{th} \) clip and generate a first clip information through an \( n^{th} \) clip information associated with the first clip through the \( n^{th} \) clip, respectively.

The playback apparatus sequentially receives the first clip information through the \( n^{th} \) clip information, and then sequentially receive and play the clip corresponding to the clip information that has finished downloading.

After generating the \( n^{th} \) clip, the channel service providing server configures a subsequent streaming data into another first clip through \( n^{th} \) clip.

Therefore, the channel service providing server is capable of providing the streaming data regardless of a length thereof.

In order to correspond to above-described configuration, the playback apparatus progressively receives and plays another first clip through \( n^{th} \) clip after progressively receiving and playing the first clip through the \( n^{th} \) clip.

A function for storing the channel list and transmitting the BUMF information, the SF information and the playlist information for the selected channel service to the playback
apparatus and a function for transmitting the clip and the clip information dynamically generated from the streaming data to the playback apparatus may be embodied in a single server or a plurality of servers.

That is, the channel service providing server may be include a first server for storing the channel list and transmitting the BUMF information, the SF information and the playlist information to the playback apparatus and a second server for transmitting the clip and the clip information dynamically generated from the streaming data to the playback apparatus.

In accordance with the present invention, the fixed information including the BUMF information, the SF information and the playlist information and the variable information including a clip information associated with a streaming data of a selected channel service is transmitted to a playback apparatus supporting a BD-J specification, thereby enabling the Blu-ray player incapable of playing the streaming data to provide viewers with the streaming data of the channel service.

While the present invention has been particularly shown and described with reference to the preferred embodiment thereof, it will be understood by those skilled in the art that various changes in form and details may be effected therein without departing from the spirit and scope of the invention as defined by the appended claims.
What is claimed is:

1. A method for providing a channel service, the method comprising steps of:
   (a) transmitting a fixed information associated with a streaming data of the channel service to a playback apparatus supporting a BD-J specification;
   (b) transmitting a variable information associated with the streaming data to the playback apparatus; and
   (c) transmitting the streaming data to the playback apparatus.

2. The method in accordance with claim 1, wherein the step (a) comprises transmitting the fixed information to the playback apparatus according to a request for the channel service received from the playback apparatus.

3. The method in accordance with claim 1, wherein the step (b) comprises transmitting the variable information to the playback apparatus according to a transmission request for the variable information received from the playback apparatus.

4. The method in accordance with claim 3, wherein the variable information includes a clip information corresponding to each of one or more clips included in the streaming data.

5. The method in accordance with claim 4, wherein the step (b) comprises transmitting the clip information to the playback apparatus, and
wherein the step (c) comprises transmitting one of the one or more clips corresponding to the clip information to the playback apparatus according to the transmission request.

6. The method in accordance with claim 4, wherein the step (b) comprises storing the one or more clips in a circular queue in a storage space.

7. The method in accordance with claim 1, wherein the fixed information includes at least one of a BUMF information, an SF information and a playlist information associated with the streaming data.

8. A method for providing a channel service using a playback apparatus supporting a BD-J specification, the method comprising steps of:

(a) receiving a fixed information associated with a streaming data of the channel service;

(b) configuring the playback apparatus for a playback of the streaming data based on the fixed information;

(c) receiving a variable information associated with the streaming data; and

(d) playing the streaming data based on the fixed information and the variable information.
9. The method in accordance with claim 8, wherein the step (a) comprises receiving the fixed information from a channel service providing server according to a request for the channel service included in a user input.

10. The method in accordance with claim 8, wherein the step (b) comprises configuring a virtual package for the playback of the streaming data based on the fixed information.

11. The method in accordance with claim 8, wherein the step (c) comprises receiving the variable information transmitted from a channel service providing server according to a request for the variable information.

12. The method in accordance with claim 8, wherein the variable information includes a clip information corresponding to each of one or more clips included in the streaming data.

13. The method in accordance with claim 12, wherein the step (c) comprises receiving the clip information, and

wherein the step (d) comprises playing one of the one or more clips corresponding to the clip information.

14. The method in accordance with claim 12, wherein the fixed information includes a
playback sequence information on the one or more clips, and

wherein the step (d) comprises playing the one or more clips according to the playback sequence information.

15. The method in accordance with claim 14, further comprises (e) storing the one or more clips including the streaming data in a storage space.

16. The method in accordance with claim 15, wherein the one or more clips stored in the storage space are in a circular queue.

17. The method in accordance with claim 15, wherein the step (d) comprises reading and playing at least one of the one or more clips stored in the storage space, the at least one being selected according to a user input.

18. The method in accordance with claim 8, wherein the fixed information includes at least one of a BUMF information, an SF information and a playlist information associated with the streaming data.
ABSTRACT OF DISCLOSURE

A method for providing a channel service is disclosed. In accordance with the present invention, a fixed information including a BUMF information, an SF information and a playlist information and a variable information including a clip information associated with a streaming data of a selected channel service are transmitted to a playback apparatus supporting a BD-J specification, thereby enabling a Blu-ray player incapable of playing the streaming data to provide viewers with the streaming data of the channel service.
START

1. RECEIVE USER INPUT FOR SELECTING CHANNEL SERVICE

2. TRANSMIT REQUEST FOR CHANNEL SERVICE TO CHANNEL SERVICE PROVIDING SERVER

3. TRANSMIT FIXED INFORMATION ASSOCIATED WITH STREAMING DATA OF SELECTED CHANNEL SERVICE TO PLAYBACK APPARATUS

4. CONFIGURE VIRTUAL PACKAGE FOR PLAYBACK APPARATUS ACCORDING TO FIXED INFORMATION

5. GENERATE ONE OR MORE CLIPS FROM STREAMING DATA ACCORDING TO FIXED INFORMATION

6. TRANSMIT REQUEST FOR VARIABLE INFORMATION TO CHANNEL SERVICE PROVIDING SERVER

7. GENERATE VARIABLE INFORMATION INCLUDING CLIP INFORMATION ASSOCIATED WITH EACH CLIP

8. TRANSMIT VARIABLE INFORMATION TO PLAYBACK APPARATUS

9. STORE STREAMING DATA INCLUDING ONE OR MORE CLIPS IN STORAGE SPACE OF CHANNEL SERVICE PROVIDING SERVER

10. TRANSMIT STREAMING DATA INCLUDING ONE OR MORE CLIPS TO PLAYBACK APPARATUS

11. STORE STREAMING DATA IN STORAGE SPACE OF PLAYBACK APPARATUS

12. PLAY STREAMING DATA INCLUDING ONE OR MORE CLIPS

END

Fig. 2
DECLARATION FOR PATENT APPLICATION

As a below-named inventor(s), I/we hereby declare that:

My/Our residence(s), post office address(es) and citizenship(s) is/are as stated below next to my/our name(s).

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

the specification of which: (check one)

[X] is attached hereto.

[ ] was filed on __________, as Serial No. ________________

and was amended on ________________ (if applicable).

I/We hereby state that we have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I/We acknowledge the duty to disclose information which is material to the patentability of this application as defined by 37 CFR § 1.56.

I/We hereby claim foreign priority benefits under 35 U.S.C. § 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:

Prior Foreign Applications:

10-2008-0058198
(Country) 20 / 6 / 2008 [ ] [X] (Day/Month/Year Filed) Yes No

I/We hereby appoint the Practitioners associated with the following Customer Number:

Customer Number 20529

Direct Telephone Calls to:
Gary M. Nath
(703) 548-6284

Send Correspondence to:
Customer Number 20529
THE NATH LAW GROUP
112 South West Street
Alexandria, VA 22314
U.S.A.

I/We hereby claim the benefit under 35 U.S.C. § 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by 35 U.S.C. § 112, first paragraph, I/we acknowledge the duty to disclose material information as defined in 37 CFR § 1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

(U.S. Application Serial No.) (U.S. Filing Date) (Status—patented, pending, abandoned)

(U.S. Application Serial No.) (U.S. Filing Date) (Status—patented, pending, abandoned)
DECLARATION FOR PATENT APPLICATION

I/we hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below:

Application Number(s) ___________________________ Filing Date ___________________________

We hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor: BAEK, Wonjang
Inventor's Signature ___________________________ Date: 5/12/09
Country of Citizenship: Republic of Korea

Full name of second inventor: KIM, John
Inventor's Signature ___________________________ Date: 5/12/09
Residence: SK HUB SU B-1416, 650-4, Guro 1-dong, Guro-gu, Seoul 152-720, Republic of Korea
Country of Citizenship: Republic of Korea
Post Office Address: SK HUB SU B-1416, 650-4, Guro 1-dong, Guro-gu, Seoul 152-720, Republic of Korea

Full name of third inventor: LEE, Seong Baek
Inventor's Signature ___________________________ Date: 5/12/09
Residence: Mokdong Apts. 704-1403, Mok 1-dong, Yangcheon-gu, Seoul 158-757, Republic of Korea
Country of Citizenship: Republic of Korea
Post Office Address: Mokdong Apts. 704-1403, Mok 1-dong, Yangcheon-gu, Seoul 158-757, Republic of Korea
PTO-1556
(5/87)

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**Substitute for Form PTO-873**

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**MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(h))**

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This collection of information is required by 37 CFR 1.19. 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.

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# Patent Application Fee Determination Record

**Substitute for Form PTO-875**

### Application as Filed – Part I

<table>
<thead>
<tr>
<th><strong>(Column 1)</strong></th>
<th><strong>(Column 2)</strong></th>
<th><strong>Small Entity</strong></th>
<th><strong>Other than Small Entity</strong></th>
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<tr>
<td><strong>For</strong></td>
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<td><strong>Number Extra</strong></td>
<td><strong>Rate ($)</strong></td>
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<td><strong>Search Fee</strong></td>
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*If the difference in column 1 is less than zero, enter "0" in column 2.

### Application as Amended – Part II

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<td><strong>Claims Remaining After Amendment</strong></td>
<td><strong>Highest Number Previously Paid For</strong></td>
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</tbody>
</table>

*If the entity in column 1 is less than the entity in column 2, write "0" in column 3.
*If the "Highest Number Previously Paid For" in this space is less than 20, enter "20".
***If the "Highest Number Previously Paid For" in this space is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

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