

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
3 November 2011 (03.11.2011)

PCT

(10) International Publication Number  
**WO 2011/136496 A3**

(51) International Patent Classification:  
*H04N 7/173* (2011.01) *H04N 5/44* (2011.01)

(21) International Application Number:  
PCT/KR2011/002792

(22) International Filing Date:  
19 April 2011 (19.04.2011)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
10-2010-0038677 26 April 2010 (26.04.2010) KR  
10-2010-0039289 28 April 2010 (28.04.2010) KR

(71) Applicant (for all designated States except US): **SAM-SUNG ELECTRONICS CO., LTD.** [KR/KR]; 416, Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do 443-742 (KR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KEUM, Ji Eun** [KR/KR]; No.131-606, Sinmaetan Weve Haneulchae Apt., Maetan 3-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do 443-751 (KR). **SONG, Jae Yeon** [KR/KR]; No.B-805, Sungbo Apt., Yeoksam-dong, Gangnam-gu, Seoul 135-080 (KR). **JUNG, Bo Sun** [KR/KR]; No.507-605, Mujigae Maeul Chonggu Apt., Gumi-dong, Bundang-gu, Seongnam-si, Gyeonggi-do 463-715 (KR).

(74) Agent: **YOON, Dong Yol**; YOON & LEE International Patent & Law Firm, 3rd Fl, Ace Highend Tower-5 505-18, Gasan-dong, Geumcheon-gu, Seoul 153-803 (KR).

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

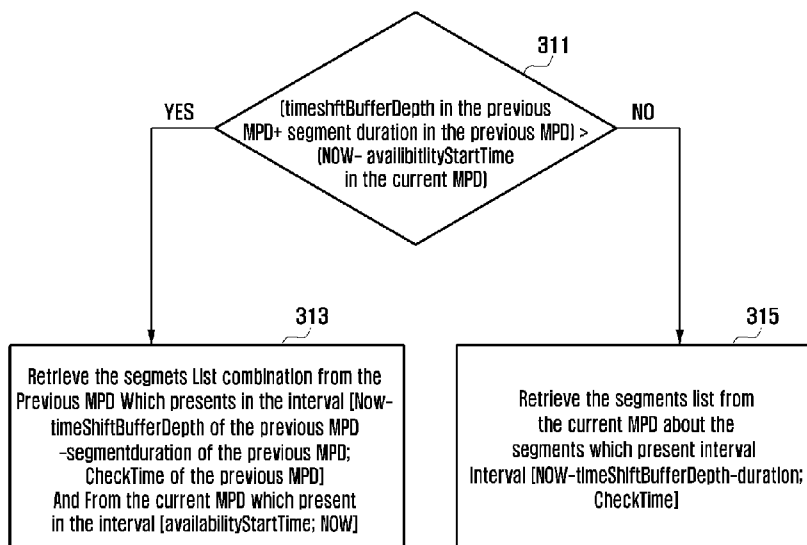
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:  
— with international search report (Art. 21(3))

[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR PLAYING LIVE CONTENT

[Fig. 3]



(57) Abstract: A method for providing a client with a playlist of content segments accessible in the live streaming service provided in a Hypertext Transfer Protocol (HTTP) adaptive streaming format is provided. A live content processing method for a broadcast system includes transmitting and updating content-related information sent from a server to a client, checking, at the client, content segments accessible in real time and saving a previous content-related information, retrieving the content segments playable by referencing the previous content-related information, determining, at the client, whether the content requested for playback can be playable using a playlist, and notifying the user of the playback result.



WO 2011/136496 A3



---

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

**(88) Date of publication of the international search report:**  
1 March 2012

**A. CLASSIFICATION OF SUBJECT MATTER****H04N 7/173(2011.01)i, H04N 5/44(2011.01)i**

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

H04N 7/173; H04N 5/91; G06F 15/16

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) &amp; Keywords: live, HTTP, content

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2010-0086283 A1 (RAMACHANDRAN KUMAR et al.) 08 April 2010 See abstract; paragraphs [0027]-[0037]; claims 1, 10; figure 2.	1-15
A	US 2008-0086570 A1 (SUJIT DEY et al.) 10 April 2008 See abstract; paragraphs [0030]-[0035]; claims 1, 5; figure 1.	1-15
A	US 2007-0250636 A1 (SEAN STEPHENS) 25 October 2007 See abstract; paragraphs [0064]-[0072]; claims 1, 20; figure 2.	1-15

 Further documents are listed in the continuation of Box C. See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search

19 DECEMBER 2011 (19.12.2011)

Date of mailing of the international search report

**21 DECEMBER 2011 (21.12.2011)**

Name and mailing address of the ISA/KR

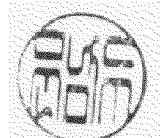
Korean Intellectual Property Office  
Government Complex-Daejeon, 189 Cheongsu-ro,  
Seo-gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

Moon, Nam Doo

Telephone No. 82-42-481-5751



**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/KR2011/002792**

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2010-0086283 A1	08.04.2010	None	
US 2008-0086570 A1	10.04.2008	US 7743161 B2 WO 2008-045963 A2 WO 2008-045963 A3	22.06.2010 17.04.2008 17.04.2008
US 2007-0250636 A1	25.10.2007	None	