US009306850B2

(12) **United States Patent**
Hong et al.

(10) **Patent No.: US 9,306,850 B2**
(45) **Date of Patent: Apr. 5, 2016**

(54) **METHOD FOR TRANSMITTING CONTENT IN CONTENT CENTRIC NETWORK**

(71) Applicants: **Choong Seon Hong**, Yongin-si (KR); **Sung Won Lee**, Seongnam-si (KR); **Rim Haw**, Seoul (KR)

(72) Inventors: **Choong Seon Hong**, Yongin-si (KR); **Sung Won Lee**, Seongnam-si (KR); **Rim Haw**, Seoul (KR)

(73) Assignee: **UNIVERSITY-INDUSTRY COOPERATION GROUP OF KYUNG-HEE UNIVERSITY**, Gyeonggi-do (KR)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **14/433,591**

(22) PCT Filed: **Oct. 29, 2012**

(86) PCT No.: **PCT/KR2012/008932**
§ 371 (c)(1),
(2) Date: **Apr. 3, 2015**

(87) PCT Pub. No.: **WO2014/054828**
PCT Pub. Date: **Apr. 10, 2014**

(65) **Prior Publication Data**

US 2015/0229564 A1 Aug. 13, 2015

(30) **Foreign Application Priority Data**

Oct. 5, 2012 (KR) 10-2012-0110711

(51) **Int. Cl.**

H04W 4/00	(2009.01)
H04L 12/743	(2013.01)
H04W 40/38	(2009.01)
H04W 40/20	(2009.01)
H04W 40/34	(2009.01)
H04W 60/04	(2009.01)

(52) **U.S. Cl.**
CPC ***H04L 45/7457*** (2013.01); ***H04W 40/20*** (2013.01); ***H04W 40/34*** (2013.01); ***H04W 40/38*** (2013.01); ***H04W 60/04*** (2013.01)

(58) **Field of Classification Search**
CPC H04L 45/00; H04L 45/22; H04L 45/24; H04L 45/58; H04L 45/74; H04L 45/7457; H04L 49/00; H04W 40/00; H04W 40/02; H04W 40/20; H04W 40/34; H04W 60/00; H04W 60/04
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2004/0264409	A1	12/2004	Lee et al.	
2009/0288163	A1 *	11/2009	Jacobson et al.	726/22
2010/0157905	A1	6/2010	Ahn et al.	
2013/0111063	A1 *	5/2013	Lee	709/241
2013/0177024	A1 *	7/2013	Hong et al.	370/410

FOREIGN PATENT DOCUMENTS

KR	10-2010-0023205 A	3/2010
KR	10-2012-0060565 A	6/2012

* cited by examiner

Primary Examiner — Anh Ngoc Nguyen
(74) *Attorney, Agent, or Firm* — Rabin & Berdo, P.C.

(57) **ABSTRACT**

A method for transmitting content in a content centric network. The method provides a mobile router with information regarding the content transmission path between a connection router and a mobile terminal while the mobile terminal moves from the current connection router to the mobile router, and enables the mobile router and routers adjacent to the mobile router to transmit a content request message only to the path router included in the transmission path from among the adjacent routers based on the transmission path information, thus reducing loads to a network and quickly transmitting a request content to the mobile terminal.

13 Claims, 11 Drawing Sheets