US010142913B2

(54) **REFINING MULTICAST SERVICE AREA BASED ON LOCATION**

(71) Applicant: **Verizon Patent and Licensing Inc.,** Arlington, VA (US)

(72) Inventors: **Kevin Lisewski,** Mahwah, NJ (US); **Robert Kaphan,** Bloomsbury, NJ (US)

(73) Assignee: **Verizon Patent and Licensing Inc.,** Basking Ridge, NJ (US)

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

(56) **References Cited**

U.S. PATENT DOCUMENTS

9,596,096	B2 *	3/2017	Taylor	H04L 12/189
2007/0293249	A1 *	12/2007	Wang	H04L 12/189
				455/466
2012/0182921	A1 *	7/2012	Tsuboi	H04W 4/021
				370/312
2013/0003640	A1 *	1/2013	Yang	H04W 72/005
				370/312
2013/0128797	A1 *	5/2013	Newberg	H04L 12/1868
				370/312
2013/0276017	A1 *	10/2013	Walker	H04N 21/44204
				725/25
2013/0294318	A1 *	11/2013	Amerga	H04W 4/06
				370/312
2013/0308519	A1 *	11/2013	Gou	H04L 5/001
				370/312
2013/0315128	A1 *	11/2013	Zhao	H04W 72/005
				370/312
2014/0177506	A1 *	6/2014	Korus	H04W 4/06
				370/312
2014/0192697	A1 *	7/2014	Anchan	H04W 72/005
				370/312
2015/0222697	A1 *	8/2015	Bassiouny	H04L 67/1002
				709/203

(Continued)

Primary Examiner — Charles Shedrick

(57) **ABSTRACT**

A method for refining multicast service areas based on location may include receiving, at a mobile device, location-based definitions of service subareas located within a multimedia broadcast multicast service (MBMS) service area. Different MBMS content may be associated with two or more service subareas. The method includes storing the received location-based definitions of the service subareas within the mobile device, generating a current position of the mobile device, identifying a service subarea from the plurality of service subareas that circumscribes the current position of the mobile device, and permitting, in response to the identifying, user access to MBMS content associated with the identified service subarea.

20 Claims, 9 Drawing Sheets

100