

US010142921B2

# (12) United States Patent

### McCann et al.

# (54) WIRELESS NETWORK SERVICE TRANSACTION PROTOCOL

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(\*) Notice: Subject to any disclaimer, the term of this

patent is extended or adjusted under 35

U.S.C. 154(b) by 0 days.

This patent is subject to a terminal dis-

claimer.

(21) Appl. No.: 15/483,759

(22) Filed: Apr. 10, 2017

(65) Prior Publication Data

US 2017/0215129 A1 Jul. 27, 2017

#### Related U.S. Application Data

- (63) Continuation of application No. 14/854,685, filed on Sep. 15, 2015, now Pat. No. 9,622,155, which is a (Continued)
- (51) **Int. Cl. H04W 4/00** (2018.01) **H04W 48/14** (2009.01)

  (Continued)
- (52) **U.S. Cl.**CPC ............. *H04W 48/14* (2013.01); *G06F 21/606* (2013.01); *H04L 61/1541* (2013.01); (Continued)

# (10) Patent No.: US 10,142,921 B2

(45) **Date of Patent:** 

\*Nov. 27, 2018

# (58) Field of Classification Search

CPC .... H04W 48/08; H04W 48/14; H04L 61/1541 See application file for complete search history.

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#### (57) ABSTRACT

A mobile device may retrieve service information about a network prior to associating with the network. Utilizing an advertisement protocol to transmit service query messages, a mobile device may receive service query responses from a network that identify the services available prior to establishing network capability. In other words, the messaging is prior to the exchange of any authentication parameters between the device and the network as well prior to the establishment of a recognized session between the device and the network.

### 28 Claims, 8 Drawing Sheets

