

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
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NAME OF SUBMITTER:	ROBERT T. CANAVAN
SIGNATURE:	/Robert T. Canavan/
DATE SIGNED:	06/07/2019
Total Attachments: 3	
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source=2014-0522CON1-Assignment-Oliver1#page2.tif	
source=2014-0522CON1-Assignment-Oliver1#page3.tif	

ASSIGNMENT

WHEREAS I, James Oliver, residing at 117 Kensington Lane, Alabaster, Alabama 35007, hereafter referred to as Assignor, am listed as an inventor on a patent application entitled "ACR BUFFERING IN THE CLOUD" having AT&T Docket No. 2014-0522, the patent application to be filed in the United States Patent & Trademark Office; and

WHEREAS, AT&T Intellectual Property I, L.P., a partnership organized and existing under the laws of Nevada and having an address at 675 W. Peachtree Street, Suite 4000, Atlanta, GA 30375 (hereinafter referred to as Assignee), desires to acquire the entire right, title and interest for the United States of America and elsewhere throughout the world in and to said invention and the patent application identified above, including any and all divisions and continuations thereof and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues and prolongations thereto;

NOW THEREFORE, be it known that for and in consideration of the sum of Ten Dollars (\$10.00) and other good and valuable consideration the receipt of which from Assignee is hereby acknowledged, I, as Assignor, have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the Assignee, its lawful successors and assigns, my entire right, title, and interest in and to this invention and this non-provisional application, and all divisions, substitutions, and continuations thereof; and all Letters Patent of the United States which may be granted thereon, and all reexaminations and reissues thereof; and all rights to claim priority on the basis of the above provisional application (if any), as well as all rights to claim priority on the basis of this application; and all applications for Letters Patent which may hereafter be filed for this invention in any foreign country and all Letters Patent which may be granted on this invention in any foreign country, including certificates of inventions, utility models, industrial design protection, design patent protection, and other governmental grants or issuances; and all extensions, renewals, prolongations, and reissues thereof; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term and terms for all such patents;

AND, I HEREBY authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any foreign country whose duty it is to issue patents on applications as described above, to issue all Letters Patent for this invention to Assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, I HEREBY covenant that I have the full right to convey the interest assigned by this Assignment, and I have not executed and will not execute any assignment, sale, license, agreement, or encumbrance in conflict with this Assignment;

AND, I HEREBY further covenant and agree, for the Assignor and the Assignor's legal representatives, that I will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to us respecting this invention; assist the Assignee in the prosecution of the patent application identified above; assist in the making and prosecution of any other patent applications that the Assignee may elect to make covering the invention identified above; testify in any interference, litigation, or other legal proceeding; sign all lawful papers when called upon to do so; execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors or assigns; execute all divisional, continuation, and reissue applications; make all rightful oaths and generally do everything possible to aid Assignee, to obtain and enforce proper patent protection for this invention in the United States and any foreign country, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee; and hereby instruct, and further

covenant and agree to bind our heirs, legal representatives, and assigns, to do same, without compensation, but at the expense of Assignee or its representatives.

AND, I HEREBY consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country in proof of the right of AT&T Intellectual Property I, L.P. to apply for patent or other form of protection for said inventions and to claim the aforesaid benefit of the right of priority.

This Assignment may be executed in any number of counterparts, each of which when so executed and delivered shall be deemed an original, and such counterparts together shall constitute one and the same instrument. A facsimile copy of this Assignment, or any form of an electronic copy of this Assignment, including the signature pages hereto, shall be deemed to be an original.

IN TESTIMONY WHEREOF, I have hereunto set my hand this 05 day of SEPTEMBER, 2014.

James Oliver
James Oliver

State of Alabama

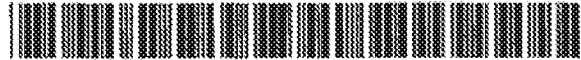
County of Shelby

On this 5 day of September, 2014, before me a Notary Public in and for the above County and State, personally appeared James Oliver, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose herein set forth.

Jamie Clayton
Notary Public

My Commission Expires: November 5, 2016





US009716798B2

(12) **United States Patent**
Oliver

(10) **Patent No.:** **US 9,716,798 B2**
(45) **Date of Patent:** **Jul. 25, 2017**

(54) **ACR BUFFERING IN THE CLOUD**

(71) Applicant: **AT&T Intellectual Property I, L.P.**,
Atlanta, GA (US)

(72) Inventor: **James Oliver, Alabaster, AL (US)**

(73) Assignee: **AT&T INTELLECTUAL**
PROPERTY I, L.P., Atlanta, GA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 360 days.

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H04M 15/00 (2006.01)
H04L 29/06 (2006.01)

(52) U.S. Cl.
CPC *H04M 15/58* (2013.01); *H04L 65/1016*
(2013.01); *H04M 15/41* (2013.01); *H04M*
15/57 (2013.01); *H04M 15/62* (2013.01);
H04M 15/74 (2013.01)

(58) Field of Classification Search
None
See application file for complete search history.

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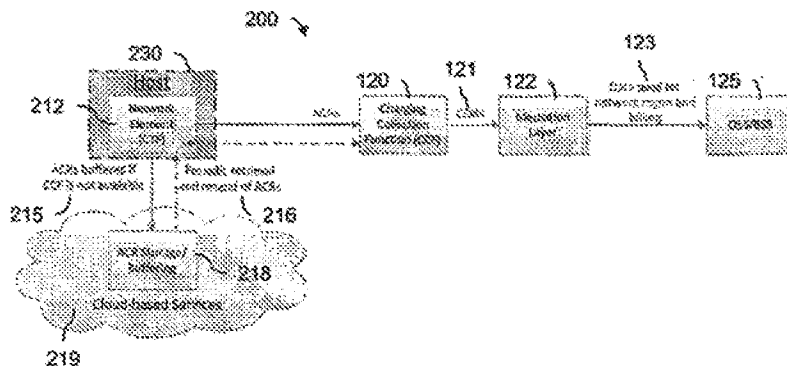
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Primary Examiner — Yaotang Wang

(57) **ABSTRACT**

A network element of an Internet Protocol multimedia subsystem buffers network resource usage information in the cloud. After generating network resource usage information based on an observation of network resource usage, the network element transmits the network resource usage information to a cloud-based storage service for buffering. Once a network resource usage collection function is available, the network element retrieves the network resource usage information from the cloud-based storage service and transmits it to a charging collection function for generation of call detail records.

17 Claims, 5 Drawing Sheets



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