PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5023896

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
MING CHEN	06/25/2018
DAHAI REN	06/25/2018
LEI ZHANG	06/25/2018
MATTHEW J. THREEFOOT	06/26/2018

RECEIVING PARTY DATA

Name:	VERIZON PATENT AND LICENSING INC.	
Street Address:	ONE VERIZON WAY	
City:	BASKING RIDGE	
State/Country:	NEW JERSEY	
Postal Code:	07920	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16018298

CORRESPONDENCE DATA

Fax Number: (703)439-2658

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 571-297-0007
Email: pto@snyderllp.com

Correspondent Name: SNYDER, CLARK, LESCH & CHUNG, LLP 444 950 HERNDON PARKWAY, SUITE 365

Address Line 4: HERNDON, VIRGINIAM 20170

ATTORNEY DOCKET NUMBER:	20180155	
NAME OF SUBMITTER:	SUBMITTER: THOMAS W. EDMAN	
SIGNATURE:	/Thomas W. Edman, Reg. No. 51,643/	
DATE SIGNED: 06/26/2018		
	This document serves as an Oath/Declaration (37 CFR 1.63).	

Total Attachments: 4

source=20180155_s_Dec_Assign_0021_1467#page1.tif

PATENT REEL: 046200 FRAME: 0958

504977150

source=20180155_s_Dec_Assign_0021_1467#page2.tif source=20180155_s_Dec_Assign_0021_1467#page3.tif source=20180155_s_Dec_Assign_0021_1467#page4.tif

DECLARATION AND ASSIGNMENT FOR PATENT APPLICATION

Patent Application Title: VIRTUAL NETWORK ENDPOINTS FOR INTERNET OF THINGS (IOT) DEVICES
the patent application for which: States Application Number to be assigned by the USPTO, or
Declaration of Inventor
As the below named inventor, I hereby declare that:
 the above-identified application was made or authorized to be made by me; I believe that I am the original inventor or an original joint inventor of a claimed invention in the above-referenced application; and I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine
• I hereby acknowledge that any willful faise statement made in this declaration is purposed or imprisonment of not more than five (5) years, or both.
Inventor Assignment Acknowledgement
For good and valuable consideration, the receipt of which is hereby acknowledged, I agree as follows:
A. I hereby assign to the Verizon legal entity identified below ("Assignee"), including its successors and assigns, my entire worldwide right, title and interest in and to any and all inventions and other ideas described in the above-identified patent application, as well as in and to said application and all divisional, continuing (in whole or in part), substitute, renewal, reissue, provisional or other applications or registrations for Letters Patent which have been or shall be filed in the United States and all foreign countries based on any of said inventions or ideas, or based on or claiming priority to said application; and in and to all original and reissued Letters Patent which have been or shall be issued in the United States and foreign countries from any of said applications or registrations; and in and to all rights of priority resulting from the filing of any of said applications or registrations (all collectively, the "Patent Rights"). Letters Patent as used herein shall include, without limitation, patents, utility models, industrial designs, and any other form of industrial property recognized under the Paris Convention for the Protection of Industrial Property.
B. I agree (i) that Assignee may apply for and receive Letters Patent based on the Patent Rights in its own name; (ii) that I will execute all rightful oaths, declarations, assignments, powers of attorney and other papers related to the Patent Rights when requested by Assignee (or its successors and/or assigns) without compensation (but at Assignee's expense),; (iii) that I appoint Assignee (acting through its representatives) as my attorney-in-fact, such appointment being irrevocable and coupled with the interest in the Patent through its representatives) as my attorney-in-fact, such appointment being irrevocable and coupled with the interest in the Patent Rights, with full authority in my place and stead and in my name to take any action and to execute any document which Assignee may deem reasonably necessary or advisable to accomplish the purposes of this assignment, including the execution and filing of the papers identified in part (ii) in my name where permitted by law; (iv) to communicate to Assignee, its successors, assigns representatives and agents, all facts known to me relating to said Patent Rights and the history thereof; and (v) to generally deeverything which Assignee, its successors, assigns, representatives or agents shall consider desirable for aiding in securing and everything which Assignee, its successors and assigns. C. I covenant with Assignee, its successors and assigns, that no assignment, grant, mortgage, license, or other agreement affecting that the property the same as set forth herein is possessed by me.
the Patent Rights has been made to others by me, and that full right to convey the same as see 12.
ASSIGNEE: Verizon Patent and Licensing Inc., a Delaware Corporation with a place of business at One Verizon Way, Basking Ridge, NJ 07920 US
IN WITNESS to my agreement to the foregoing Declaration of Inventor and Inventor Assignment Acknowledgement, I have executed as set forth below:
Full legal name of Inventor: Ming Chen
Address: 9 Meeting House Circle, Bedford, MX 01730 Signature:

DECLARATION AND ASSIGNMENT FOR PATENT APPLICATION

Patent Application Title WOTGAL NETWOOK ENDOWNITE FOR INTERNET OF THINGS GOT DEMICES

Facilit Application Title, VIKTONE NET WORK ENDFORTS FOR INTERNET OF THINGS (IOT) DEVICES		
the patent application for which: Solution Solution States States		
Declaration of Inventor		
As the below named inventor, I hereby declare that:		
 the above-identified application was made or authorized to be made by me; I believe that I am the original inventor or an original joint inventor of a claimed invention in the above-referenced application; and I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both. 		
Inventor Assignment Acknowledgement		
For good and valuable consideration, the receipt of which is hereby acknowledged, I agree as follows:		
A. I hereby assign to the Verizon legal entity identified below ("Assignee"), including its successors and assigns, my entire worldwide right, title and interest in and to any and all inventions and other ideas described in the above-identified patent application, as well as in and to said application and all divisional, continuing (in whole or in part), substitute, renewal, reissue, provisional or other applications or registrations for Letters Patent which have been or shall be filed in the United States and all foreign countries based on any of said inventions or ideas, or based on or claiming priority to said application; and in and to all original and reissued Letters Patent which have been or shall be issued in the United States and foreign countries from any of said applications or registrations; and in and to all rights of priority resulting from the filing of any of said applications or registrations (all collectively, the "Patent Rights"). Letters Patent as used herein shall include, without limitation, patents, utility models, industrial designs, and any other form of industrial property recognized under the Paris Convention for the Protection of Industrial Property.		
B. I agree (i) that Assignee may apply for and receive Letters Patent based on the Patent Rights in its own name; (ii) that I will execute all rightful oaths, declarations, assignments, powers of attorney and other papers related to the Patent Rights when requested by Assignee (or its successors and/or assigns) without compensation (but at Assignee's expense),; (iii) that I appoint Assignee (acting through its representatives) as my attorney-in-fact, such appointment being irrevocable and coupled with the interest in the Patent Rights, with full authority in my place and stead and in my name to take any action and to execute any document which Assignee may deem reasonably necessary or advisable to accomplish the purposes of this assignment, including the execution and filing of the papers identified in part (ii) in my name where permitted by law; (iv) to communicate to Assignee, its successors, assigns, representatives and agents, all facts known to me relating to said Patent Rights and the history thereof; and (v) to generally do everything which Assignee, its successors, assigns, representatives or agents shall consider desirable for aiding in securing and maintaining proper protection for said Patent Rights and for vesting title to said Patent Rights in Assignee, its successors and assigns.		
·C. I covenant with Assignee, its successors and assigns, that no assignment, grant, mortgage, license, or other agreement affecting the Patent Rights has been made to others by me, and that full right to convey the same as set forth herein is possessed by me.		
ASSIGNEE: Verizon Patent and Licensing Inc., a Delaware Corporation with a place of business at One Verizon Way, Basking Ridge, NJ 07920 US		
IN WITNESS to my agreement to the foregoing Declaration of Inventor and Inventor Assignment Acknowledgement, I have executed as set forth below:		
Full legal name of Inventor: Dahai Ren		
Address: 29 Bridge Street, Lexington, MA 02421		
Signature: Date: Date:		

DECLARATION AND ASSIGNMENT FOR PATENT APPLICATION

FOR PATENT APPLICATION
Patent Application Title: VIRTUAL NETWORK ENDPOINTS FOR INTERNET OF THINGS (IOT) DEVICES
the patent application for which: is being filed concurrently herewith, Application Number to be assigned by the USPTO, or was filed on as United States Application Number or PCT International Application Number
Declaration of Inventor
As the below named inventor, I hereby declare that:
 the above-identified application was made or authorized to be made by me; I believe that I am the original inventor or an original joint inventor of a claimed invention in the above-referenced application; and
 I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both.
Inventor Assignment Acknowledgement
For good and valuable consideration, the receipt of which is hereby acknowledged, I agree as follows:
A. I hereby assign to the Verizon legal entity identified below ("Assignee"), including its successors and assigns, my entire worldwide right, title and interest in and to any and all inventions and other ideas described in the above-identified patent application, as well as in and to said application and all divisional, continuing (in whole or in part), substitute, renewal, reissue, provisional or other applications or registrations for Letters Patent which have been or shall be filed in the United States and all foreign countries based on any of said inventions or ideas, or based on or claiming priority to said application; and in and to all original and reissued Letters Patent which have been or shall be issued in the United States and foreign countries from any of said applications or registrations; and in and to all rights of priority resulting from the filing of any of said applications or registrations (all collectively, the "Patent Rights"). Letters Patent as used herein shall include, without limitation, patents, utility models, industrial designs, and any other form of industrial property recognized under the Paris Convention for the Protection of Industrial Property.
B. I agree (i) that Assignee may apply for and receive Letters Patent based on the Patent Rights in its own name; (ii) that I will execute all rightful oaths, declarations, assignments, powers of attorney and other papers related to the Patent Rights when requested by Assignee (or its successors and/or assigns) without compensation (but at Assignee's expense),; (iii) that I appoint Assignee (acting through its representatives) as my attorney-in-fact, such appointment being irrevocable and coupled with the interest in the Patent Rights, with full authority in my place and stead and in my name to take any action and to execute any document which Assignee may deem reasonably necessary or advisable to accomplish the purposes of this assignment, including the execution and filing of the papers identified in part (ii) in my name where permitted by law; (iv) to communicate to Assignee, its successors, assigns, representatives and agents, all facts known to me relating to said Patent Rights and the history thereof; and (v) to generally do everything which Assignee, its successors, assigns, representatives or agents shall consider desirable for aiding in securing and maintaining proper protection for said Patent Rights and for vesting title to said Patent Rights in Assignee, its successors and assigns.
C. I covenant with Assignee, its successors and assigns, that no assignment, grant, mortgage, license, or other agreement affecting the Patent Rights has been made to others by me, and that full right to convey the same as set forth herein is possessed by me.
ASSIGNEE: Verizon Patent and Licensing Inc., a Delaware Corporation with a place of business at One Verizon Way, Basking Ridge, NJ 07920 US
IN WITNESS to my agreement to the foregoing Declaration of Inventor and Inventor Assignment Acknowledgement, I have executed as set forth below:
Full legal name of Inventor: Lei Zhang
Address: 2849 Ridge View Road, Frisco, TX 75034
Signature: Date: 6/25/2018

DECLARATION AND ASSIGNMENT FOR PATENT APPLICATION

Patent Application Title: VIRTUAL NETWORK ENDPOINTS FOR INTERNET OF THINGS (IOT) DEVICES

the patent application fo	r which:	
🔀 is being filed concur	rently herewith, Application Number to be assigne	d by the USPTO, or
was filed on	as United States Application Number	
Number	····	
	279 f 0.7	

Declaration of Inventor

As the below named inventor, I hereby declare that:

- the above-identified application was made or authorized to be made by me;
- I believe that I am the original inventor or an original joint inventor of a claimed invention in the above-referenced application; and
- I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both.

Inventor Assignment Acknowledgement

For good and valuable consideration, the receipt of which is hereby acknowledged, I agree as follows:

- A. I hereby assign to the Verizon legal entity identified below ("Assignee"), including its successors and assigns, my entire worldwide right, title and interest in and to any and all inventions and other ideas described in the above-identified patent application, as well as in and to said application and all divisional, continuing (in whole or in part), substitute, renewal, reissue, provisional or other applications or registrations for Letters Patent which have been or shall be filed in the United States and all foreign countries based on any of said inventions or ideas, or based on or claiming priority to said application; and in and to all original and reissued Letters Patent which have been or shall be issued in the United States and foreign countries from any of said applications or registrations; and in and to all rights of priority resulting from the filing of any of said applications or registrations (all collectively, the "Patent Rights"). Letters Patent as used herein shall include, without limitation, patents, utility models, industrial designs, and any other form of industrial property recognized under the Paris Convention for the Protection of Industrial Property.
- B. I agree (i) that Assignee may apply for and receive Letters Patent based on the Patent Rights in its own name; (ii) that I will execute all rightful oaths, declarations, assignments, powers of attorney and other papers related to the Patent Rights when requested by Assignee (or its successors and/or assigns) without compensation (but at Assignee's expense),; (iii) that I appoint Assignee (acting through its representatives) as my attorney-in-fact, such appointment being irrevocable and coupled with the interest in the Patent Rights, with full authority in my place and stead and in my name to take any action and to execute any document which Assignee may deem reasonably necessary or advisable to accomplish the purposes of this assignment, including the execution and filing of the papers identified in part (ii) in my name where permitted by law; (iv) to communicate to Assignee, its successors, assigns, representatives and agents, all facts known to me relating to said Patent Rights and the history thereof; and (v) to generally do everything which Assignee, its successors, assigns, representatives or agents shall consider desirable for aiding in securing and maintaining proper protection for said Patent Rights and for vesting title to said Patent Rights in Assignee, its successors and assigns.
- C. I covenant with Assignee, its successors and assigns, that no assignment, grant, mortgage, license, or other agreement affecting the Patent Rights has been made to others by me, and that full right to convey the same as set forth herein is possessed by me.

ASSIGNEE: Verizon Patent and Licensing Inc., a Delaware Corporation with a place of business at One Verizon Way, Basking Ridge, NJ 07920 US

IN WITNESS to my agreement to the foregoing Declaration of Inventor and Inventor Assignment Acknowledgement, I have executed as set forth below:

Full legal name of Inventor: Matthew J. Threefoot

Address: 9526 Good Lion Road, Columbia, MD 21045

Signature: Mather Mreefort Date: 6/26/18