

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT5010647

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|---|--|-----------------------|
| SUBMISSION TYPE: | CORRECTIVE ASSIGNMENT | |
| NATURE OF CONVEYANCE: | Corrective Assignment to correct the CITY OF THE ASSIGNEE previously recorded on Reel 044452 Frame 0972. Assignor(s) hereby confirms the ANNOTATED PREVIOUSLY RECORDED COVER SHEET AND ORIGINALLY EXECUTED ASSIGNMENT. | |
| RESUBMIT DOCUMENT ID: | 504722412 | |
| CONVEYING PARTY DATA | | |
| | Name | Execution Date |
| | JIANNING LIU | 11/20/2017 |
| RECEIVING PARTY DATA | | |
| Name: | HUAWEI TECHNOLOGIES CO., LTD. | |
| Street Address: | HUAWEI ADMINISTRATION BUILDING | |
| Internal Address: | BANTIAN, LONGGANG DISTRICT | |
| City: | SHENZHEN, GUANGDONG | |
| State/Country: | CHINA | |
| Postal Code: | 518129 | |
| PROPERTY NUMBERS Total: 1 | | |
| | Property Type | Number |
| | Application Number: | 15708388 |
| CORRESPONDENCE DATA | | |
| Fax Number: | | |
| <i>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.</i> | | |
| Email: | nahmad@s-n-h.com | |
| Correspondent Name: | STAAS & HALSEY, LLP | |
| Address Line 1: | 1201 NEW YORK AVENUE, N.W. | |
| Address Line 2: | SUITE 700 | |
| Address Line 4: | WASHINGTON, D.C. 20005 | |
| ATTORNEY DOCKET NUMBER: | 2520.1296 | |
| NAME OF SUBMITTER: | GENE M. GARNER, II, REG. NO. 34,172 | |
| SIGNATURE: | /Gene M. Garner II/ | |
| DATE SIGNED: | 06/18/2018 | |
| Total Attachments: 4 | | |
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REEL: 046126 FRAME: 0695

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| PATENT ASSIGNMENT COVER SHEET |
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Electronic Version v1.1
 Stylesheet Version v1.2

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| SUBMISSION TYPE: | NEW ASSIGNMENT |
| NATURE OF CONVEYANCE: | ASSIGNMENT |
| CONVEYING PARTY DATA | |
| Name | Execution Date |
| JIANNING LIU | 11/20/2017 |
| RECEIVING PARTY DATA | |
| Name: | HUAWEI TECHNOLOGIES CO., LTD. |
| Street Address: | HUAWEI ADMINISTRATION BUILDING, BANTIAN, LONGGANG DISTRICT |
| City: | SHENZHEN, GUANGDONG SHENZHEN, GUANGDONG |
| State/Country: | CHINA |
| Postal Code: | 518129 |
| PROPERTY NUMBERS Total: 1 | |
| Property Type | Number |
| Application Number: | 15708388 |
| CORRESPONDENCE DATA | |
| Fax Number: | (202)434-1501 |
| Phone: | 2024341500 |
| Email: | danderson@s-n-h.com |
| <i>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.</i> | |
| Correspondent Name: | STAAS & HALSEY LLP |
| Address Line 1: | 1201 NEW YORK AVE. NW, STE. #700 |
| Address Line 4: | WASHINGTON, D.C. 20005 |
| ATTORNEY DOCKET NUMBER: | 2520.1296 |
| NAME OF SUBMITTER: | GENE M. GARNER, II - REG. # 34,172 |
| Signature: | /Gene M. Garner II/ |
| Date: | 12/20/2017 |
| Total Attachments: 2 source=Assignment_as-filed#page1.tif source=Assignment_as-filed#page2.tif | |
| RECEIPT INFORMATION | |

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| EPAS ID: | PAT4744928 |
| Receipt Date: | 12/20/2017 |

PATENT

Attorney Docket No. _____
Client Reference No. 84420112US03

ASSIGNMENT

WHEREAS, I,

 Jianning Liu
 Huawei Administration Building
 Bantian, Longgang District
 Shenzhen, 518129, Guangdong
 P.R.CHINA;

have invented and own a certain invention entitled:

 TROUBLESHOOTING METHOD BASED ON NETWORK FUNCTION
 VIRTUALIZATION, AND DEVICE

for which invention I have executed an application (provisional or non-provisional) for a U.S. patent, which was filed on 2017-09-19, under U.S. Application No. 15708388 and

WHEREAS, HUAWEI TECHNOLOGIES CO.,LTD., Huawei Administration Building Bantian, Longgang District Shenzhen, 518129, Guangdong P.R.CHINA;, hereinafter referred to as Assignee, is desirous of acquiring the entire domestic and foreign right, title, and interest in and under the invention described in the patent application.

NOW, THEREFORE, for good and valuable considerations, the receipt and sufficiency of which are hereby acknowledged, I assign and transfer to the Assignee and the Assignee's legal representatives, successors and assigns the full and exclusive rights in and to the invention in the U.S. and every foreign country and the entire right, title, and interest in and to the patent application and other such applications (e.g., provisional applications, non-provisional applications, continuations, continuations-in-part, divisionals, reissues, reexaminations, National phase applications, including petty patent applications, and utility model applications) that may be filed in the United States and every foreign country on the invention, and the patents, extensions, or derivations thereof, both foreign and domestic, that may issue thereon, and I do hereby authorize and request the Commissioner of Patents to issue U.S. patents to the above-mentioned Assignee agreeably with the terms of this assignment document.

I HEREBY AUTHORIZE the Assignee to insert in this assignment document the filing date and application number of the application if the date and number are unavailable at the time this document is executed.

I DO HEREBY COVENANT and agree with the Assignee that I will not execute any writing or do any act whatsoever conflicting with the terms of this assignment document set forth herein, and that I will at any time upon request, without further or additional consideration, but at the expense of the Assignee, execute such additional assignments and other writings and do such additional acts as the Assignee may deem necessary or desirable to perfect the Assignee's enjoyment of this assignment, and render all necessary assistance in making

In re Appln. of Liu .
Attorney Docket No. _____

application for and obtaining original, continuation, continuation-in-part, divisional, reissued, reexamined, and National phase patents of the U.S. or of any and all foreign countries on the invention, and in enforcing any rights or chooses in action accruing as a result of such applications or patents, and by executing statements and other affidavits, it being understood that the foregoing covenant and agreement shall bind, and inure to the benefit of, the assigns and legal representatives of all parties hereto.

IN WITNESS WHEREOF, I have hereunder set my hand on the dates shown below.

Date Nov 20, 2017

Jianning LIU
Jianning Liu