PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5512646

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	CONFIRMATORY ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SAIRAMESH NAMMI	03/26/2019
ARUNABHA GHOSH	01/16/2019

RECEIVING PARTY DATA

Name:	AT&T INTELLECTUAL PROPERTY I, L.P	
Street Address:	675 W. PEACHTREE STREET	
Internal Address:	SUITE 4000	
City:	ATLANTA	
State/Country:	GEORGIA	
Postal Code:	30308	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15624350

CORRESPONDENCE DATA

Fax Number: (216)696-8731

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: 2166968730

Email: epas@thepatentattorneys.com

Correspondent Name: AT&T LEGAL DEPARTMENT - AT&W

Address Line 1: ONE AT&T WAY Address Line 2: ROOM 2A 212

Address Line 4: BEDMINSTER, NEW JERSEY 07921

ATTORNEY DOCKET NUMBER:	2017-0760/ATTWP919US
NAME OF SUBMITTER:	THOMAS E. WATSON
SIGNATURE:	/Thomas E. Watson/
DATE SIGNED:	05/08/2019

Total Attachments: 4

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PATENT 505465843 REEL: 049116 FRAME: 0066

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PATENT REEL: 049116 FRAME: 0067

ASSIGNMENT

WHEREAS I, SaiRamesh Nammi residing at 9916 Bundoran Dr., Austin, TX 78717, hereafter referred to as Assignor, am listed as an inventor on a patent application entitled "LAYER MAPPING SUBSET RESTRICTION FOR 5G WIRELESS COMMUNICATION SYSTEMS," having AT&T Docket No. 2017-0760, the patent application to be filed in the United States Patent & Trademark Office, or which was filed as U.S. Patent Application Serial No. 15/624,350 on June 15, 2017; 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 30308 (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

PATENT REEL: 049116 FRAME: 0068 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.

I hereby authorize and request Amin, Turocy & Watson, LLP to insert the filing date and application number of said application when known.

IN TESTIMONY WHEREOF, I have hereunto set my hand this 26 day of MARC, A SaiRamesh Nammi State of Texas County of Tax s On this 26 day of March 2019, before me a Notary Public in and for the above County and State, personally appeared 2019, before me a Notary Public in and for the above County and State, personally appeared 3010 and 3010 an					
State of Taxas County of Taxas On this Jaday of March 2019, before me a Notary Public in and for the above County and State, personally appeared 500 Ramas Aamas and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose herein set forth. My Commission Expires: 8-10-20 My Commission Expires: 8-10-20 My R NORMAN AMY R NORMAN OB-10-2020	IN TESTIMO	NY WHEREOF, I have here	unto set my	hand this <u>26</u> day of	MARCH
State of Texas County of Tay s On this 20 day of March 2019, before me a Notary Public in and for the above County and State, personally appeared Sarkamah Mammi, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose herein set forth. My Commission Expires: 8-10-20 My Commission Expires: 8-10-20 AMY B NORMAN AMY B NORMAN OB 10-2020	20_1.				
On this 20 day of March, 20 G, before me a Notary Public in and for the above County and State, personally appeared Sanga Aang, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose herein set forth. My Commission Expires: 8-10-20 My Commission Expires: 8-10-20 AMY B NORMAN AMY B NORMAN Notary Public, State of Texas OB 10-2020		Sa			•
On this 2 day of 10 day of	State of <u>Texas</u>)			
and state, personally appeared	County of Tray	5			
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Notary Public, 508-10-2020	V.	My Commission Expires:	X-10 2	- O	Section of the All
				Notary Public	08-10-2020
Page 2 of 2		Page	e 2 of 2	Motory Notary	ALL STREET, ST

ASSIGNMENT

WHEREAS I, Arunabha Ghosh residing at 9805 Bundoran Dr., Austin, TX 78717 hereafter referred to as Assignor, am listed as an inventor on a patent application entitled "LAYER MAPPING SUBSET RESTRICTION FOR 5G WIRELESS COMMUNICATION SYSTEMS," having AT&T Docket No. 2017-0760, the patent application to be filed in the United States Patent & Trademark Office, or which was filed as U.S. Patent Application Serial No. 15/624,350 on June 15, 2017; and

WHEREAS, AT&T INTELLECTUAL PROPERTY I, L.P., a Partnership organized and existing under the laws of Georgia and having an address at 675 W. Peachtree Street, Suite 4000, Atlanta, GA 30308 (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

PATENT REEL: 049116 FRAME: 0070 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 6 day of 70,
- Aall
Arunabha Ghosh
State of <u>Texas</u>)
County of Travis
On this 1/2 day of 1/2 nu ty , 2019, before me a Notary Public in and for the above County and State, personally appeared 1/2 nu has 6/2 hps h , and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose
herein set forth.
Amy R. Morron
Notary Hublic 2 10 30
Notary Hublic My Commission Expires: 8-10-20
S. S. W. P. AMY R NORMAN
Notary Public, State of Texas

Page 2 of 2

AMY R NORMAN
Notary Public, State of Texas
Comm. Expires 08-10-2020
Notary ID 12923841

PATENT REEL: 049116 FRAME: 0071

RECORDED: 05/08/2019