

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT6423707

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
SHOBHNA GOYAL	12/18/2018
MARIUS J. GUDELIS	12/18/2018
MICHAEL L. HAMMER	12/17/2018
KAUSTUBH JOSHI	12/21/2018
ISRAEL L. MEANS	12/18/2018
GANESHKUMAR NATARAJAN	12/17/2018
PRAVEEN RAMADENU	12/17/2018
MANIKKA THYAGARAJAN	12/18/2018
SATYENDRA TRIPATHI	12/19/2018
RECEIVING PARTY DATA	
Name:	AT&T INTELLECTUAL PROPERTY I, L.P.
Street Address:	754 PEACHTREE STREET NE
Internal Address:	SUITE 7C
City:	ATLANTA
State/Country:	GEORGIA
Postal Code:	30308
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	17107394
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>	
Phone:	9085321918
Email:	jonathan@hciplaw.com
Correspondent Name:	AT&T LEGAL DEPARTMENT - H&C ATTN: PATENT
Address Line 1:	ONE AT&T WAY
Address Line 2:	ROOM 2A212
Address Line 4:	BEDMINSTER, NEW JERSEY 07921
ATTORNEY DOCKET NUMBER:	2016-2201CON/27.5998USC1

PATENT

NAME OF SUBMITTER:	JONATHAN A. PAULIS
SIGNATURE:	/Jonathan A. Paulis/
DATE SIGNED:	11/30/2020
Total Attachments: 18 source=5998USC1_Executed_Assignment-Goyal#page1.tif source=5998USC1_Executed_Assignment-Goyal#page2.tif source=5998USC1_Executed_Assignment-Gudelis#page1.tif source=5998USC1_Executed_Assignment-Gudelis#page2.tif source=5998USC1_Executed_Assignment-Hammer#page1.tif source=5998USC1_Executed_Assignment-Hammer#page2.tif source=5998USC1_Executed_Assignment-Joshi#page1.tif source=5998USC1_Executed_Assignment-Joshi#page2.tif source=5998USC1_Executed_Assignment-Means#page1.tif source=5998USC1_Executed_Assignment-Means#page2.tif source=5998USC1_Executed_Assignment-Natarajan#page1.tif source=5998USC1_Executed_Assignment-Natarajan#page2.tif source=5998USC1_Executed_Assignment-Ramadenu#page1.tif source=5998USC1_Executed_Assignment-Ramadenu#page2.tif source=5998USC1_Executed_Assignment-Thyagarajan#page1.tif source=5998USC1_Executed_Assignment-Thyagarajan#page2.tif source=5998USC1_Executed_Assignment-Tripathi#page1.tif source=5998USC1_Executed_Assignment-Tripathi#page2.tif	

ASSIGNMENT

WHEREAS, I, **Shobhna Goyal**, residing at 39 Calder Court, Marlboro, New Jersey 07746, US, am listed as an inventor on a patent application entitled **“High Availability and High Utilization Cloud Data Center Architecture for Supporting Telecommunications Services,”** having AT&T Docket No. 2016-2201, 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 and by virtue of the laws of the State of Delaware, and having an office and place of business 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 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 my 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 hands this 18th day of December, 2018.

Shobhna Goyal
Shobhna Goyal

STATE OF NJ)
) ss.
COUNTY OF Middlesex)

On this 18th day of December, 2018, before me a Notary Public in and for the above County and State, personally appeared Shobhna Goyal, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose herein set forth.

[SEAL]

Paula Pfaff
Notary Public

PAULA PFAFF
NOTARY PUBLIC OF NEW JERSEY
ID # 50005080
My Commission Expires 10/22/2019

ASSIGNMENT

WHEREAS, I, Marius J. Gudellis, residing at 2 Carol Court, Holmdel, New Jersey 07733, US, am listed as an inventor on a patent application entitled "High Availability and High Utilization Cloud Data Center Architecture for Supporting Telecommunications Services," having AT&T Docket No. 2016-2201, 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 and by virtue of the laws of the State of Delaware, and having an office and place of business 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 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 my 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 hands this 18th day of December, 2018.


Marius J. Gudelis

STATE OF NJ)
COUNTY OF Middlesex) ss.

On this 18th day of December, 2018, before me a Notary Public in and for the above County and State, personally appeared Marius J. Gudelis, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose herein set forth.

[SEAL]


Notary Public

PAULA PFAFF
NOTARY PUBLIC OF NEW JERSEY
ID # 50006080
My Commission Expires 10/23/2019

ASSIGNMENT

WHEREAS, I, **Michael L. Hammer**, residing at 1520 County Road 3512, Dike, Texas 75437, US, am listed as an inventor on a patent application entitled **"High Availability and High Utilization Cloud Data Center Architecture for Supporting Telecommunications Services,"** having AT&T Docket No. 2016-2201, 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 and by virtue of the laws of the State of Delaware, and having an office and place of business 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;

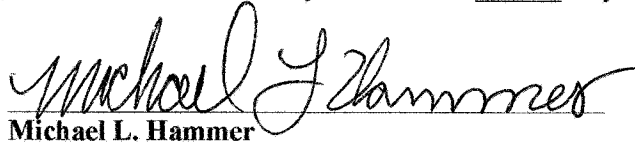
AND, I HEREBY further covenant and agree, for the Assignor and the Assignor's legal representatives, that I will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to us respecting this invention; assist the Assignee in the prosecution of the patent 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 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 my 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.

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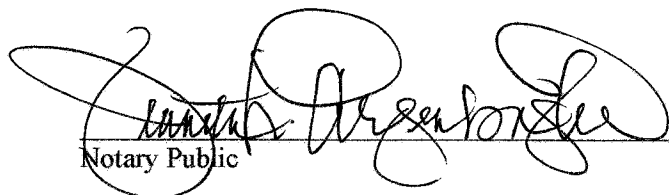
IN TESTIMONY WHEREOF, I have hereunto set my hands this 17 day of December, 2018.

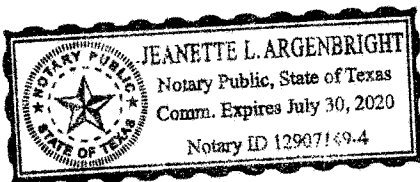

Michael L. Hammer

STATE OF TEXAS)
COUNTY OF HOPKINS) ss.

On this 17th day of December, 2018, before me a Notary Public in and for the above County and State, personally appeared **Michael L. Hammer**, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose herein set forth.

[SEAL]


Notary Public



ASSIGNMENT

WHEREAS, I, **Kaustubh Joshi**, residing at 2365 Morse Avenue, Scotch Plains, New Jersey 07076, US, am listed as an inventor on a patent application entitled **"High Availability and High Utilization Cloud Data Center Architecture for Supporting Telecommunications Services,"** having AT&T Docket No. 2016-2201, 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 and by virtue of the laws of the State of Delaware, and having an office and place of business 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;

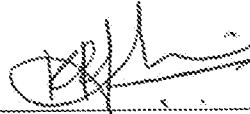
AND, I HEREBY further covenant and agree, for the Assignor and the Assignor's legal representatives, that I will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to us respecting this invention; assist the Assignee in the prosecution of the patent 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 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 my 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.

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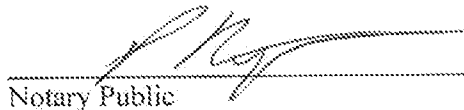
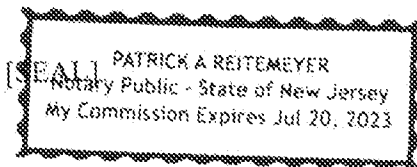
IN TESTIMONY WHEREOF, I have hereunto set my hands this 21st day of December, 2018.



Kaustubh Joshi

STATE OF New Jersey)
) ss.
COUNTY OF Union)

On this 21st day of December, 2018, before me a Notary Public in and for the above County and State, personally appeared **Kaustubh Joshi**, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose herein set forth.


Notary Public

ASSIGNMENT

WHEREAS, I, **Israel L. Means**, residing at 2212 Avenida Mara, Chula Vista, California 91914, US, am listed as an inventor on a patent application entitled **“High Availability and High Utilization Cloud Data Center Architecture for Supporting Telecommunications Services,”** having AT&T Docket No. 2016-2201, 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 and by virtue of the laws of the State of Delaware, and having an office and place of business 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 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 my 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.

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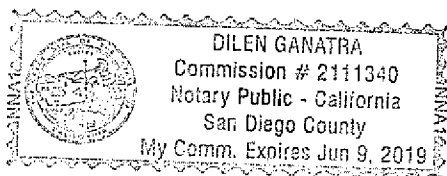
IN TESTIMONY WHEREOF, I have hereunto set my hands this 18th day of DECEMBER, 2018.


Israel L. Means

STATE OF California)
) ss.
COUNTY OF San Diego)

On this 18 day of Dec, 2018, before me a Notary Public in and for the above County and State, personally appeared **Israel L. Means**, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose herein set forth.

[SEAL]




Notary Public

ASSIGNMENT

WHEREAS, I, **Ganeshkumar Natarajan**, residing at 419 Ironwood Lane, Morganville, New Jersey 07751, US, am listed as an inventor on a patent application entitled **"High Availability and High Utilization Cloud Data Center Architecture for Supporting Telecommunications Services,"** having AT&T Docket No. 2016-2201, 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 and by virtue of the laws of the State of Delaware, and having an office and place of business 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 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 my 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.

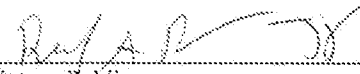
IN TESTIMONY WHEREOF, I have hereunto set my hands this 17th day of December, 2018.


Ganeshkumar Natarajan

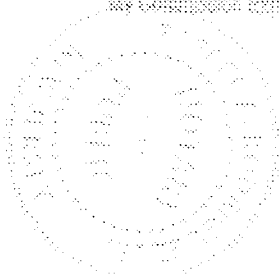
STATE OF NJ)
COUNTY OF Monmouth) ss.

On this 17 day of December, 2018, before me a Notary Public in and for the above County and State, personally appeared Ganeshkumar Natarajan, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose herein set forth.

[SEAL]


Notary Public

RAFAELA A. RODRIGUEZ JR.
NOTARY PUBLIC OF NEW JERSEY
Comm. # 50074213
My Commission Expires 1/22/2023



ASSIGNMENT

WHEREAS, I, **Praveen Ramadenu**, residing at 24 Hedgerow Lane, Manalapan, New Jersey 07726, US, am listed as an inventor on a patent application entitled "**High Availability and High Utilization Cloud Data Center Architecture for Supporting Telecommunications Services**," having AT&T Docket No. 2016-2201, 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 and by virtue of the laws of the State of Delaware, and having an office and place of business 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;

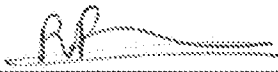
AND, I HEREBY further covenant and agree, for the Assignor and the Assignor's legal representatives, that I will, without further consideration, communicate with Assignee, its successors and assigns, any facts known to us respecting this invention; assist the Assignee in the prosecution of the patent 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 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 my 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 hands this 17 day of December, 2018.

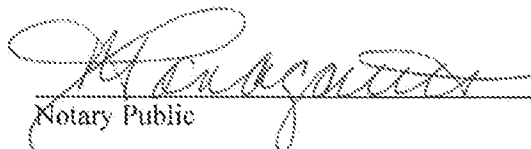


Praveen Ramadenu

STATE OF New Jersey)
) ss.
COUNTY OF Morris)

On this 17 day of December, 2018, before me a Notary Public in and for the above County and State, personally appeared **Praveen Ramadenu**, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose herein set forth.

[SEAL]



Notary Public

ROSANNA PANAGAKOS
NOTARY PUBLIC OF NEW JERSEY
COMMISSION # 2438910
EXPIRATION DATE 9/26/2023

ASSIGNMENT

WHEREAS, I, **Manikka Thyagarajan**, residing at 16 Mount Ararat Road, Short Hills, New Jersey 07078, US, am listed as an inventor on a patent application entitled **“High Availability and High Utilization Cloud Data Center Architecture for Supporting Telecommunications Services,”** having AT&T Docket No. 2016-2201, 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 and by virtue of the laws of the State of Delaware, and having an office and place of business 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 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 my 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 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.

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IN TESTIMONY WHEREOF, I have hereunto set my hands this 18th day of December, 2018.

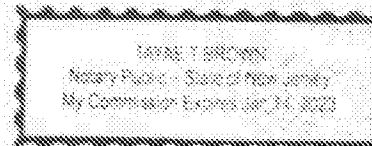
Manikka Thyagarajan
Manikka Thyagarajan

STATE OF New Jersey,
COUNTY OF Union

On this 18 day of December, 2018, before me a Notary Public in and for the above County and State, personally appeared Manikka Thyagarajan, and acknowledged the execution of the foregoing assignment as his free act and deed, for the purpose herein set forth.

[SEAL]

Taryn T. Brown
Notary Public



ASSIGNMENT

WHEREAS, I, **Satyendra Tripathi**, residing at 1 Jefferson Road, E. Brunswick, New Jersey 08816, US, am listed as an inventor on a patent application entitled "**High Availability and High Utilization Cloud Data Center Architecture for Supporting Telecommunications Services**," having AT&T Docket No. 2016-2201, 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 and by virtue of the laws of the State of Delaware, and having an office and place of business 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 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 my heirs, legal representatives, and assigns, to do same, without compensation, but at the expense of Assignee or its representatives.

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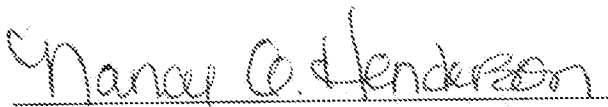
IN TESTIMONY WHEREOF, I have hereunto set my hands this 19th day of DECEMBER, 2018.



Satyendra Tripathi

STATE OF New Jersey)
COUNTY OF Monmouth) ss.

On this 19 day of December, 2018, before me a Notary Public in and for the above County and State, personally appeared Satyendra Tripathi, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose herein set forth.



Notary Public

[SEAL]