

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT4181009

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT

**CONVEYING PARTY DATA**

Name	Execution Date
AJAY MAHIMKAR	12/05/2016
ZIHUI GE	12/01/2016
JENNIFER YATES	12/07/2016
DEBORAH CATHEY	12/05/2016
PRASANNA RAMACHANDRAN	11/30/2016
CHRISTOPHER MAY	12/02/2016
VIJAY GOPALAKRISHNAN	12/07/2016

**RECEIVING PARTY DATA**

<b>Name:</b>	AT&T INTELLECTUAL PROPERTY I, L.P.
<b>Street Address:</b>	675 W. PEACHTREE STREET, NW
<b>City:</b>	ATLANTA
<b>State/Country:</b>	GEORGIA
<b>Postal Code:</b>	30308
<b>Name:</b>	AT&T MOBILITY II LLC
<b>Street Address:</b>	1025 LENOX PARK BOULEVARD, NE
<b>City:</b>	ATLANTA
<b>State/Country:</b>	GEORGIA
<b>Postal Code:</b>	30319

**PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	15375948

**CORRESPONDENCE DATA**

Fax Number: (215)568-3439

*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: 215-568-3100

Email: assignments@bakerlaw.com

Correspondent Name: AT&amp;T LEGAL DEPARTMENT - BH

Address Line 1: PATENT DOCKETING ROOM 2A-207

Address Line 2: ONE AT&amp;T WAY

PATENT

**Address Line 4:** BEDMINSTER, NEW JERSEY 07921

**ATTORNEY DOCKET NUMBER:** 2016.0899/101900.002000

**NAME OF SUBMITTER:** SHANDA CLEMMONS

**SIGNATURE:** /Shanda Clemmons/

**DATE SIGNED:** 12/12/2016

**Total Attachments: 14**

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Assignment

**ASSIGNMENT**

WHEREAS, I, **AJAY MAHIMKAR**, residing at **2209 Plaza Drive, Apt. 2209, Woodbridge, New Jersey 07095** hereinafter referred to as Assignor, am listed as an inventor on a patent application entitled "**MANAGING SOFTWARE CHANGES TO VIRTUAL NETWORK FUNCTIONS,**" having AT&T Docket No. **2016-0899**, the patent application to be filed in the United States Patent & Trademark Office; and

WHEREAS, **AT&T Intellectual Property I, L.P.**, a Partnership organized and existing under the laws of Nevada and having an address at **675 W. Peachtree Street, NW, Atlanta, Georgia 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 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.

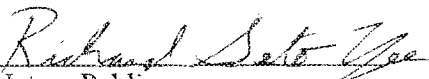
IN TESTIMONY WHEREOF, I have hereunto set my hand this DEC 05 2016 day of \_\_\_\_\_, 2016.

  
\_\_\_\_\_  
Ajay Mahimkar

State of NS )

County of SOMERSET )

On this DEC 05 2016 day of \_\_\_\_\_, 2016, before me a Notary Public in and for the above County and State, personally appeared AJAY MAHIMKAR, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose herein set forth.

  
\_\_\_\_\_  
Notary Public

RICHARD SETO YEE  
NOTARY PUBLIC OF NEW JERSEY  
ID # 2433861  
Commission Expires 10/23/2018

My Commission Expires: \_\_\_\_\_

Assignment**ASSIGNMENT**

WHEREAS, I, **ZIHUI GE**, residing at **25 Belmont Avenue, Madison, New Jersey 07940** hereinafter referred to as Assignor, am listed as an inventor on a patent application entitled "**MANAGING SOFTWARE CHANGES TO VIRTUAL NETWORK FUNCTIONS**," having AT&T Docket No. **2016-0899**, the patent application to be filed in the United States Patent & Trademark Office; and

WHEREAS, **AT&T Intellectual Property I, L.P.**, a Partnership organized and existing under the laws of **Nevada** and having an address at **675 W. Peachtree Street, NW, Atlanta, Georgia 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;

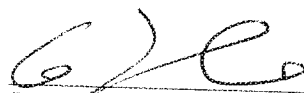
AND, I HEREBY covenant that I have the full right to convey the interest assigned by this Assignment, and I have not executed and will not execute any assignment, sale, license, agreement, or encumbrance in conflict with this Assignment;

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 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.

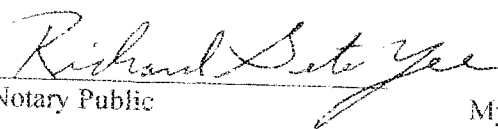
IN TESTIMONY WHEREOF, I have hereunto set my hand this \_\_\_\_\_ day DEC 01 2016, 2016.

  
\_\_\_\_\_  
Zihui Ge

State of NY )

County of SOMERSET )

On this \_\_\_\_\_ day of DEC 01 2016, 2016, before me a Notary Public in and for the above County and State, personally appeared Zihui Ge, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose herein set forth.

  
\_\_\_\_\_  
Notary Public

My Commission Expires: \_\_\_\_\_

RICHARD SETO YEE  
NOTARY PUBLIC OF NEW JERSEY  
ID # 2439861  
My Commission Expires 10/27/2018

Assignment

**ASSIGNMENT**

WHEREAS, I, **JENNIFER YATES**, residing at **25 Frederick Place, Morristow, New Jersey 07960** hereinafter referred to as Assignor, am listed as an inventor on a patent application entitled **“MANAGING SOFTWARE CHANGES TO VIRTUAL NETWORK FUNCTIONS,”** having AT&T Docket No. **2016-0899**, the patent application to be filed in the United States Patent & Trademark Office; and

WHEREAS, **AT&T Intellectual Property I, L.P.**, a Partnership organized and existing under the laws of Nevada and having an address at **675 W. Peachtree Street, NW, Atlanta, Georgia 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 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 7<sup>th</sup> day of December, 2016.

J. Yates.  
Jennifer Yates

State of New Jersey )  
County of Somerset )

On this 7 day of December, 2016, before me a Notary Public in and for the above County and State, personally appeared Jennifer Yates, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose herein set forth.

Notary Public Gail Petz

My Commission Expires: \_\_\_\_\_

**GAIL PETZ**  
**NOTARY PUBLIC OF NEW JERSEY**  
**ID # 2438148**  
**My Commission Expires 01/15/2018**



Assignment

**ASSIGNMENT**

WHEREAS, I, **DEBORAH CATHEY**, residing at **6325 ELDER GROVE DR., DALLAS, TEXAS 75232** hereinafter referred to as Assignor, am listed as an inventor on a patent application entitled "**MANAGING SOFTWARE CHANGES TO VIRTUAL NETWORK FUNCTIONS**," having AT&T Docket No. **2016-0899**, the patent application to be filed in the United States Patent & Trademark Office; and

WHEREAS, **AT&T Intellectual Property I, L.P.**, a Partnership organized and existing under the laws of Nevada and having an address at **675 W. Peachtree Street, NW, Atlanta, Georgia 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 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.

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IN TESTIMONY WHEREOF, I have hereunto set my hand this 5<sup>TH</sup> day of DECEMBER 2016.

Deborah Cathey  
Deborah Cathey

State of Texas )

County of Dallas )

On this 5 day of December, 2016, before me a Notary Public in and for the above County and State, personally appeared Deborah Cathey, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose herein set forth.

Sharon Fry  
Notary Public SHARON FRY  
Notary Public, State of Texas  
My Commission Expires  
December 04, 2017

My Commission Expires: 12/4/17

Assignment

## ASSIGNMENT

WHEREAS, I, **PRASANNA RAMACHANDRAN**, residing at **15 Meredith Way, Hazlet, New Jersey 07730** hereinafter referred to as Assignor, am listed as an inventor on a patent application entitled "**MANAGING SOFTWARE CHANGES TO VIRTUAL NETWORK FUNCTIONS**," having AT&T Docket No. **2016-0899**, the patent application to be filed in the United States Patent & Trademark Office; and

WHEREAS, **AT&T Intellectual Property I, L.P.**, a Partnership organized and existing under the laws of Nevada and having an address at **675 W. Peachtree Street, NW, Atlanta, Georgia 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;

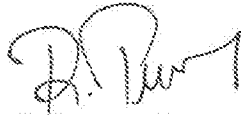
AND, I HEREBY covenant that I have the full right to convey the interest assigned by this Assignment, and I have not executed and will not execute any assignment, sale, license, agreement, or encumbrance in conflict with this Assignment;

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 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.

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IN TESTIMONY WHEREOF, I have hereunto set my hand this 30<sup>th</sup> day of NOVEMBER, 2016.

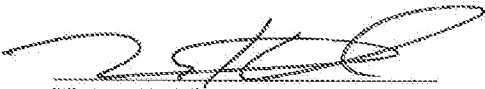


Prasanna Ramachandran

State of New Jersey )

County of Monmouth )

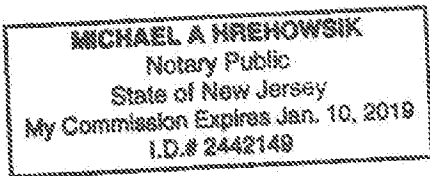
On this 30<sup>th</sup> day of November, 2016, before me a Notary Public in and for the above County and State, personally appeared Prasanna Ramachandran, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose herein set forth.



Notary Public

My Commission Expires:

1/10/2019



Assignment

## ASSIGNMENT

WHEREAS, I, **CHRISTOPHER MAY**, residing at **75 Bracken Drive, Marlborough, MA 01752** hereinafter referred to as Assignor, am listed as an inventor on a patent application entitled "**MANAGING SOFTWARE CHANGES TO VIRTUAL NETWORK FUNCTIONS**," having AT&T Docket No. **2016-0899**, the patent application to be filed in the United States Patent & Trademark Office; and

WHEREAS, **AT&T Mobility II LLC**, a Partnership organized and existing under the laws of Nevada and having an address at **1025 Lenox Park Boulevard, NE, Atlanta, Georgia 30319** (hereinafter referred to as Assignee), desires to acquire the entire right, title and interest for the United States of America and elsewhere throughout the world in and to said invention and the patent application identified above including any and all divisions and continuations thereof and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues and prolongations thereto;

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

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

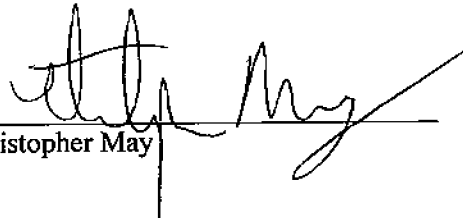
AND, I HEREBY covenant that I have the full right to convey the interest assigned by this Assignment, and I have not executed and will not execute any assignment, sale, license, agreement, or encumbrance in conflict with this Assignment;

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

AND, I HEREBY consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country in proof of the right of AT&T Mobility II LLC 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 2 day of December, 2016.

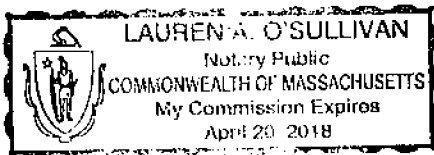
  
Christopher May

State of Massachusetts )  
County of USA )

On this 2<sup>nd</sup> day of December, 2016, before me a Notary Public in and for the above County and State, personally appeared Christopher May, and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose herein set forth.

  
Notary Public

My Commission Expires: April 20, 2018



Assignment**ASSIGNMENT**

WHEREAS, I, **VIJAY GOPALAKRISHNAN**, residing at **10 Butler Road, Edison, New Jersey 08820** hereinafter referred to as Assignor, am listed as an inventor on a patent application entitled "**MANAGING SOFTWARE CHANGES TO VIRTUAL NETWORK FUNCTIONS,**" having AT&T Docket No. **2016-0899**, the patent application to be filed in the United States Patent & Trademark Office; and

WHEREAS, **AT&T Intellectual Property I, L.P.**, a **Partnership** organized and existing under the laws of **Nevada** and having an address at **675 W. Peachtree Street, NW, Atlanta, Georgia 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;

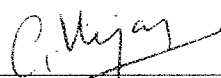
AND, I HEREBY covenant that I have the full right to convey the interest assigned by this Assignment, and I have not executed and will not execute any assignment, sale, license, agreement, or encumbrance in conflict with this Assignment;

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 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.

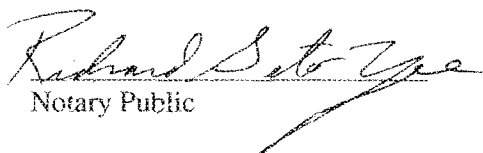
IN TESTIMONY WHEREOF, I have hereunto set my hand this \_\_\_\_\_ day of **DEC 07 2016** 2016.

  
\_\_\_\_\_  
Vijay Gopalakrishnan

State of   NJ   )

County of   SOMERSET   )

On this \_\_\_\_\_ day of **DEC 07 2016**, 2016, before me a Notary Public in and for the above County and State, personally appeared   VIJAY GOPALAKRISHNAN   and acknowledged the execution of the foregoing assignment as his/her free act and deed for the purpose herein set forth.

  
\_\_\_\_\_  
Notary Public

RICHARD SETO YEE  
NOTARY PUBLIC OF NEW JERSEY  
ID # 2430881  
My Commission Expires 10/22/2018

My Commission Expires: \_\_\_\_\_