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| Randolph Building | Atty. Docket No.: 29250-002605/US Page 1 of 1 | | |
| Alexandria, VA 22314 (2017) 06/ | 08/2012 | | |
| 6/6/12 STRADERECOR | T T | | |
| To the Honorable 10 | 3645558demarks: | | |
| Please record the attached orig | inal documents or copy thereof. | | |
| Name of conveying party(ies): | 2. Name and address of receiving party(ies) | | |
| 1. Subramanian VASUDEVAN | Name: Alcatel-Lucent USA Inc. | | |
| 2. Rahul N. PUPALA | Street Address: 600-700 Mountain Avenue | | |
| 3. Kathiravetpillai SIVANESAN | City: Murray Hill State: New Jersey | | |
| | Country: USA Postal Code: 07974 | | |
| Additional name(s) of conveying party(ies) attached? | | | |
| 3. Nature of conveyance: | Additional name(s) & address(es) attached? 🗌 YES 🔀 NO | | |
| ☐ Assignment ☐ Merger ☐ Security Agreement | | | |
| ☐ Change of Name ☐ Other: | | | |
| Execution Date: 1. June 6, 2012; 2. June 6, 2012; | | | |
| and 3. June 6, 2012, respectively. | | | |
| | | | |
| 4. Application number(s) or patent number(s): If this document is being filed together with a new app | plication, the execution date of the application is: | | |
| A. Patent Application No(s). | B. Patent No.(s). | | |
| 13/427,175 | · | | |
| Additional numbers atta | ched? 🗌 YES 🛛 NO | | |
| 5. Name and address of party to whom correspondence concerning document should be mailed: | 6. Total No. of applications/patents involved: One (1) | | |
| | 7. Total fee (37 C.F.R. § 3.41): \$40.00 | | |
| Name: HARNESS, DICKEY & PIERCE, P.L.C. | ⊠ Enclosed | | |
| Street Address: P.O. BOX 8910 City: RESTON State: VA ZIP: 20195 | Authorized to be charged to deposit account, if no fee attached. | | |
| Country: USA | 8. Deposit account number: <u>08-0750</u> | | |
| | (Attach triplicate copy of this page | | |
| . ' | if paying by deposit account) | | |
| DO NOT USE THIS SPACE | | | |
| 9. Statement and signature. | 04/11/2812 OTTHBERL 08886841 13427175 | | |
| To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. | | | |
| | | | |
| Gary D. Yacura/35,416, Name of Person Signing/Reg. No. Date | | | |
| | June 6, 2012 | | |
| Gary D. Yacura/35,416, Name of Person Signing/Reg. No. | Signature June 6, 2012 Date | | |

PATENT REEL: 028407 FRAME: 0346

Attorney Docket No. 29250-002605/US Alcatel-Lucent Ref. No. 811490-US-NP

ASSIGNMENT AND AGREEMENT

For value received, we, Subramanian VASUDEVAN of Morristown in County of Morris and State of New Jersey, Rahul N. PUPALA of Piscataway in County of Middlesex and State of New Jersey, and Kathiravetpillai SIVANESAN of Richardson in County of Collin and State of Texas, hereby sell, assign and transfer to Alcatel-Lucent USA Inc., a corporation of the State of Delaware, having an office at 600-700 Mountain Avenue, Murray Hill, NJ 07974, and its successors, assigns and legal representatives, the entire right, title and interest, for the United States of America, in and to certain inventions related to ALMOST BLANK SUBFRAME DUTY CYCLE ADAPTATION IN HETEROGENEOUS **NETWORKS** described in an application for Letters Patent of the United States, executed by us of even date herewith, and all the rights and privileges in said application and under any and all Letters Patent that may be granted in the United States for said inventions; and we also concurrently hereby sell, assign and transfer to Alcatel-Lucent USA Inc. the entire right, title and interest in and to said inventions for all countries foreign to the United States, including all rights of priority arising from the application aforesaid, and all the rights and privileges under any and all forms of protection, including Letters Patent, that may be granted in said countries foreign to the United States for said inventions.

We authorize Alcatel-Lucent USA Inc. to make application for such protection in its own name and maintain such protection in any and all countries foreign to the United States, and to invoke and claim for any application for patent or other form of protection for said inventions, without further authorization from us, any and all benefits, including the right of priority provided by any and all treaties, conventions, or agreements.

We 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 Alcatel-Lucent USA Inc. to apply for patent or other form of protection for said inventions and to claim the aforesaid benefit of the right of priority.

We request that any and all patents for said inventions be issued to Alcatel-Lucent USA Inc. in the United States and in all countries foreign to the United States, or to such nominees as Alcatel-Lucent USA Inc. may designate.

We agree that, when requested, we shall, without charge to Alcatel-Lucent USA Inc. but at its expense, sign all papers, and do all acts which may be necessary, desirable or convenient in connection with said applications, patents, or other forms of protection.

Attorney Docket No. 29250-002605/US Alcatel-Lucent Ref. No. 811490-US-NP

| | Masudina |
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| Date: June 6, 2012 | Subramanian VASUDEVAN |
| United States of America) | |
| State of New Jersey 1 ss.: | |
| County of County of County of County of | |
| came S. Vasudevan, to me known to be the | 2012, before me personally ne individual described in and who executed the |
| foregoing instrument, and acknowledged execu | ution of the same. |
| · | Michilemanhe |
| MICHELE RUTTER NOTARY PUBLIC STATE OF NEW JERSEY Alty Commission Expires Mar. 27, 2017 | Notary Public |
| | Rufugala. |
| Date: 06 June 2012 | Rahul N. PUPALA |
| United States of America) | |
| State of New Jersey) ss.: | |
| County of Union | 0 |
| On this day of came R. Pupalo_, to me known to be the foregoing instrument, and acknowledged execut | 2012, before me personally dividual described in and who executed the ation of the same. |
| | Miche In Lette |
| MICHELE RUTTER NOTARY PUBLIC STATE OF NEW JERSEY My Commission Expires Mar. 27, 2017 | Notary Public |

Ettornev Docket No. 29250-002605/US Acatel-Lucent Ref. No. 811490-US-NP

| Date: | Kath | iravetpillai SIVANESAN |
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| United States of America |) | |
| State of |) ss.: | |
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| | | Notary Public |

Alcatel-Lucent USA Inc. 600 Mountain Avenue (Room 3C-512) P. O. Box 636 Murray Hill, New Jersey 07974-0636

ASSIGNMENT AND AGREEMENT

For value received, we, Subramanian VASUDEVAN of Morristown in County of Morris and State of New Jersey, Rahul N. PUPALA of Piscataway in County of Middlesex and State of New Jersey, and Kathiravetpillai SIVANESAN of Richardson in County of Collin and State of Texas, hereby sell, assign and transfer to Alcatel-Lucent USA Inc., a corporation of the State of Delaware, having an office at 600-700 Mountain Avenue, Murray Hill, NJ 07974, and its successors, assigns and legal representatives, the entire right, title and interest, for the United States of America, in and to certain inventions related to ADAPTATION CYCLE DUTY BLANK SUBFRAME ALMOST HETEROGENEOUS NETWORKS described in an application for Letters Patent of the United States, executed by us of even date herewith, and all the rights and privileges in said application and under any and all Letters Patent that may be granted in the United States for said inventions; and we also concurrently hereby sell, assign and transfer to Alcatel-Lucent USA Inc. the entire right, title and interest in and to said inventions for all countries foreign to the United States, including all rights of priority arising from the application aforesaid, and all the rights and privileges under any and all forms of protection, including Letters Patent, that may be granted in said countries foreign to the United States for said inventions.

We authorize Alcatel-Lucent USA Inc. to make application for such protection in its own name and maintain such protection in any and all countries foreign to the United States, and to invoke and claim for any application for patent or other form of protection for said inventions, without further authorization from us, any and all benefits, including the right of priority provided by any and all treaties, conventions, or agreements.

We 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 Alcatel-Lucent USA Inc. to apply for patent or other form of protection for said inventions and to claim the aforesaid benefit of the right of priority.

We request that any and all patents for said inventions be issued to Alcatel-Lucent USA Inc. in the United States and in all countries foreign to the United States, or to such nominees as Alcatel-Lucent USA Inc. may designate.

We agree that, when requested, we shall, without charge to Alcatel-Lucent USA Inc. but at its expense, sign all papers, and do all acts which may be necessary, desirable or convenient in connection with said applications, patents, or other forms of protection.

REEL: 028407 FRAME: 0350

| | | Subramanian VASUDEVAN |
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| Date: | - | |
| Inited States of America |) | |
| state of |) ss.: | |
| County of |) | |
| On this, to me foregoing instrument, and ack | known to be | the individual described in and who executed the |
| foregoing instrument, and ack | nowlenged exc | Canada de La Canada de Can |
| | | Notary Public |
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| | | Rahul N. PUPALA |
| Date: | | |
| United States of America |) | |
| State of |) ss. | : |
| County of |) | · |
| On this, to m foregoing instrument, and ac | day of e known to be knowledged ex | 2012, before me personal the individual described in and who executed texecution of the same. |
| | | Notaty Public |

REEL: 028407 FRAME: 0351

| Date: 6th June 20 | Kathiravetpilla SIV | ANESAN |
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| United States of America |) | |
| State of Texas |) ss.: | |
| County of Dallas |) | |
| On this, to me foregoing instrument, and ack | day of June, 2 known to be the individual described to a considerate the constant of the same. | 012, before me personally d in and who executed the |

RENEA A. PHELPS
My Commission Expires
October 21, 2015

Notary Public

Alcatel-Lucent USA Inc. 600 Mountain Avenue (Room 3C-512) P. O. Box 636 Murray Hill, New Jersey 07974-0636

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